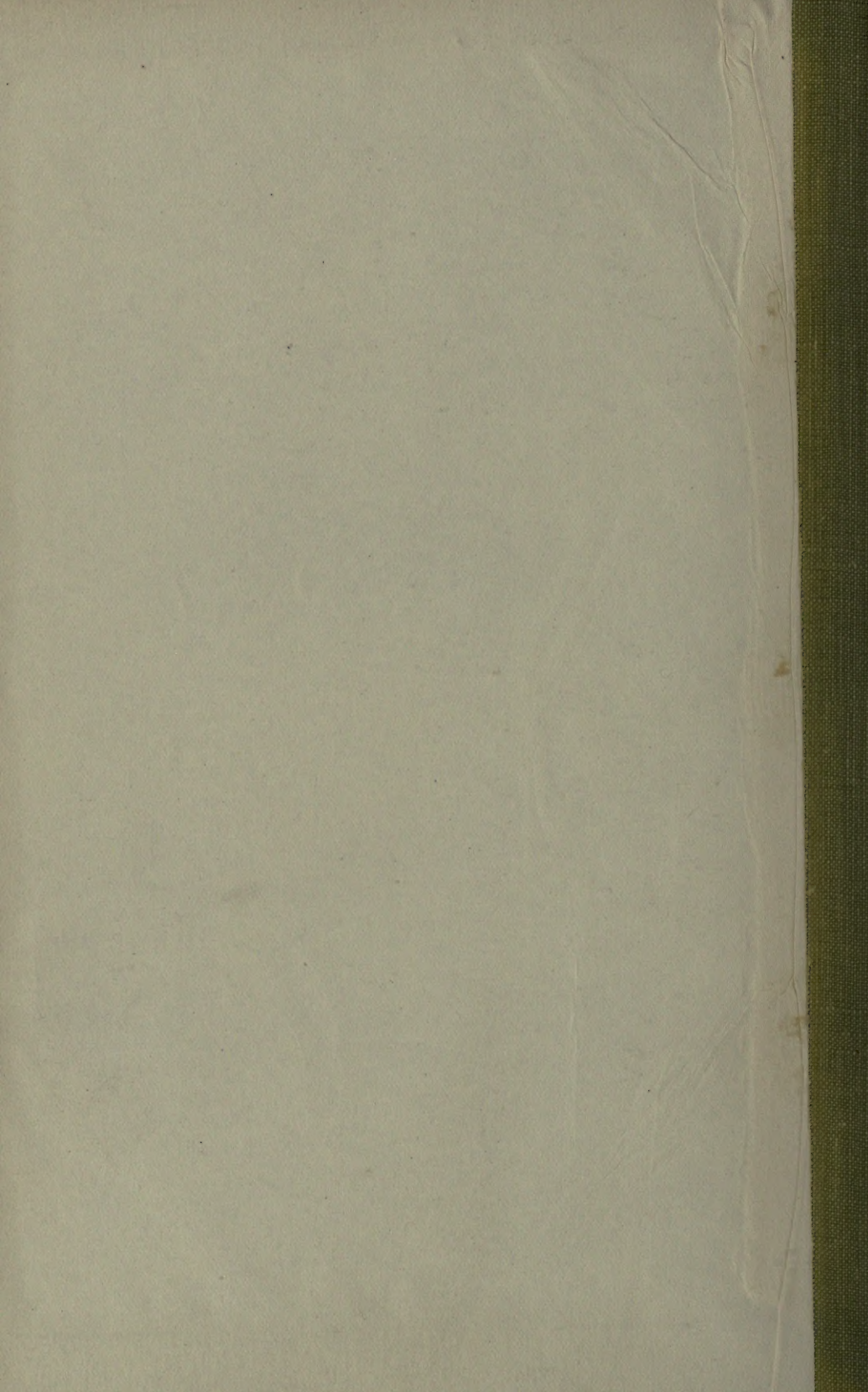


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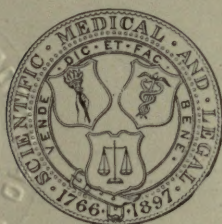
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Original Articles.

CONGENITAL OBLITERATION (OR CONGENITAL ATRESIA)
OF BILE-DUCTS WITH HEPATIC CIRRHOSIS.*

By F. PARKES WEBER, M.D., F.R.C.P.,
Physician to the German Hospital, London; and

G. DORNER, M.D.,
House Physician to the German Hospital.

THE child, Doris S—, when admitted to the German Hospital on July the 4th, 1910, was four months old, well formed and not emaciated (body-weight $11\frac{1}{4}$ lb. on July the 5th), but rather deeply jaundiced, and showing considerable firm enlargement of both the liver and the spleen; the lower borders of these organs were about half-way between the costal margin and the umbilicus. At that time and until the child's death no bile entered the intestine, for the faeces ("acholic") were white and free from urobilin (stercobilin), whereas the urine always contained bile-pigment and gave Gmelin's reaction for bilirubin, though (by the ordinary tests) it was always free from urobilin and urobilinogen. This would not have been the case had any bile been entering the intestine, since the evidence obtained from experimental work and from clinical and necropsy records is now quite sufficient to prove that when urobilin and urobilinogen are present in the urine there must be some bile (whether from the

* A paper read at the Royal Society of Medicine (Section for Disease in Children), November the 25th, 1910.

liver or artificially introduced from without) entering the alimentary canal, whereas if urobilin and urobilinogen are always absent from the urine (and fæces) no bile can be finding its way into the alimentary canal.*

The history given was that the jaundice had been noticed *soon after birth*. We have no information in regard to the colour of the meconium (and the early fæces). At birth the child seems to have had a bullous eruption, from which it recovered under medical treatment in the course of two months. No evidence was obtained of syphilis in the parents, who were both young, the patient being their first child. The absence of inherited syphilis in the case was further confirmed by Wassermann's sero-reaction, which was kindly tried (July, 1910) by Dr. H. R. Dean, at the Lister Institute, with negative result.

SUBSEQUENT COURSE OF THE CASE IN THE HOSPITAL.

The case was at first under the care of Dr. Fürth, but later on, owing to his absence on a holiday, was kindly handed over by him to Dr. Weber. The general condition varied somewhat from time to time. Ordinarily, the child seemed free from pain and happy and took her food. Occasionally there was slight fever. The urine was free from albumin until the end, when it contained a trace.

A blood-count made on July the 15th gave the following result: Red cells 6,080,000 in the cubic millimetre of blood; white cells 8700 in the cubic millimetre of blood; hæmoglobin 122 per cent. The differential count of 500 white cells (which was kindly made by Dr. A. E. Boycott) gave: Neutrophile polymorphonuclears 51 per cent.; lymphocytes 39·4 per cent.; large hyalines 5 per cent.; eosinophiles 4·6 per cent. No mast-cells were seen. The red cells appeared normal. The blood-serum obviously contained bile-pigment. It may be worth mentioning that the red blood-corpuscles, tested with regard to their resistance to hæmolysis (July the 14th), by being added to graduated hypotonic aqueous solutions of sodium chloride, appeared to be rather less resistant to hæmolysis than the red corpuscles from healthy persons, though the resistance of the red corpuscles in cases of obstructive jaundice (both in adults and children) towards hypotonic saline solutions is often somewhat greater than in ordinary healthy subjects. In the present case very slight hæmolysis occurred when the washed red cells were added to

* See Friedrich Müller, 'Ueber Icterus,' 1892; also A. E. Garrod and Gowland Hopkins, 'Journ. of Physiol.,' Cambridge, 1896, vol. xx, p. 112.

an aqueous solution of 0.63 per cent. sodium chloride, and hæmolysis was complete with a solution of 0.45 per cent.; whereas by the same method in normal blood Dr. Dorner finds that hæmolysis usually only commences with a solution of about 0.45 per cent.

At the end of July the jaundice was very deep and there was a dusky pigmentation of the skin in addition to the jaundice; there was some ascites. The child was not markedly emaciated, and took her food fairly well, though she sometimes vomited part of it out again. The body-weight at the end of August was 13½ lb. By the commencement of September the ascites had decidedly increased, and on September the 6th, 350 c.c. of clear, bilious ascitic fluid was removed by paracentesis abdominis. The ascitic fluid was of specific gravity 1012 and contained rather more than 3 per mille albumin; it gave a negative reaction to Rivalta's test*—that is to say, a drop of the fluid, when allowed to fall into a glass containing very slightly acidified water, did not produce a smoky-looking cloud like a drop of any inflammatory serous effusion invariably does. Afterwards the child had diarrhoea and vomiting. On September the 8th the child looked rather emaciated and there were slight bronchitic signs. In the evening she had fever (102° F.) and slight convulsions, and died at 9 p.m. (September the 8th), when a little over six months of age.

NECROPSY.

The *liver* (weight 9 oz.) was of green colour, finely cirrhotic, and had a slightly granular surface, with a little patchy peri-hepatic thickening of the capsule. The gall-bladder was found contracted (with thick walls), and containing only a little transparent, colourless slimy fluid. The cystic duct, the distal part of the hepatic duct and the common bile-duct (choledochus) were represented by connective-tissue cords (see diagram); that representing the common bile-duct apparently disappeared altogether before it reached the duodenum. The proximal part of the hepatic duct (up to the site of obliteration of the channel) and its right and left trunks (coming respectively from the right and left lobes of the liver) were moderately dilated and contained green inspissated bile. The *pancreas*

* This test to distinguish between inflammatory and passive serous effusions was described by Rivalta in 1895; see F. Rivalta, 'Riforma med.' Napoli, 1895, vol. xi, p. 242; also R. Lauter, 'Comptes rend. hebdomadaires de la Soc. de Biologie,' Paris, 1909, vol. lxxvii, pp. 223, 385, 827. In confirmation of Rivalta's conclusions we have found, as far as our observations go, that a drop of inflammatory effusion always gives rise to a smoky cloud.

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appeared normal and the opening of the pancreatic duct into the duodenum at the "biliary papilla" was apparently pervious; at all events, a fine probe could be passed from the duodenum into a duct opening at the "biliary papilla."

The *brain* (weight $20\frac{1}{2}$ oz.) appeared normal and its substance (and the cerebro-spinal fluid, we think) was not jaundiced. There was some broncho-pneumonia. The heart (weight 1 oz.) showed nothing of importance. There was no ascites. In regard to the alimentary canal it may be remarked that the intestines seemed considerably too thick for the age of the child. The *spleen* (weight $2\frac{1}{2}$ oz.) was enlarged, of rather firm consistence, and there were patches of perisplenitic thickening of the capsule. The kidneys (weight together $2\frac{1}{2}$ oz.), the supra-renal glands, and the thymus, showed nothing special. The bone-marrow in the shaft of the right

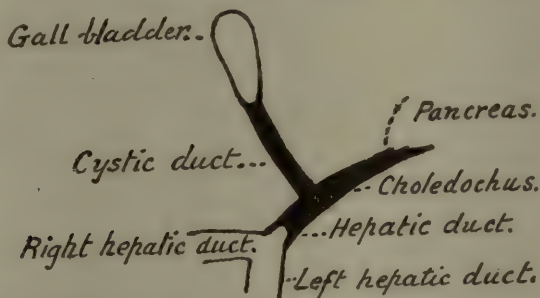


Diagram to show which of the extra-hepatic biliary ducts were represented by solid cords.

humerus, which was opened, was quite red. The mesenteric lymphatic glands were enlarged and some of them reddish on section. There were many enlarged red lymphatic glands along the spinal column. No congenital malformation was found anywhere in the body except that described in connection with the bile-ducts.

MICROSCOPICAL EXAMINATION.

The *liver* showed a uniform cirrhotic change of interlobular ("monolobular," better "unilobular") distribution, with considerable interlobular increase of biliary vessels. Many of these small bile-ducts in the connective tissue between the lobules, as well as many of the minute intra-lobular biliary channels, were plugged with inspissated bile. In fact, the microscopic picture was a typical one of so-called "biliary cirrhosis," such as has been experimentally produced,

through ligation of bile-ducts in animals, by Charcot and Gombault,* D. Gerhardt,† D. Nasse,‡ Vaughan Harley and Barratt,§ and others. A similar biliary cirrhotic change in the liver (though in a less typically unilobular form) has been sometimes found in necropsies on patients who have suffered from chronic obstructive jaundice due to gall-stones, etc.||

The *spleen* showed an increase in the thickness of the capsule and the fibrous trabeculae—that is to say, an increase in the fibrous supporting framework of the organ. The large size of the organ was doubtless partly due to increase of the pulp-tissue, which was decidedly in excess as compared with the lymphadenoid tissue of which the Malpighian corpuscles are composed. Dr. J. C. G. Ledingham, whom we must here thank for his kindness in looking through most of the sections from the case with us, points out that a marked feature of the spleen is that there are a great number of plasma-cells in the neighbourhood of the large trabeculae and walls of the blood-vessels¶; many of the plasma-cells are being enclosed in the cytoplasm of phagocytic endothelial cells.

The sections of pancreas, kidney, heart-muscle and intestine showed nothing special. The most interesting part of the microscopical examination was that of the extra-hepatic bile-ducts, and of the connective-tissue cords representing them.

Sections of the wall of the *gall-bladder* showed that it was thickened, and that it was very rich in connective tissue and blood-vessels of a peculiar kind. These blood-vessels consisted almost entirely of endothelial cells, and reminded one of the embryonic type of blood-vessels met with so conspicuously in some forms of cutaneous *nævus* (*hæmangioma hypertrophicum*, *hæmangio-endothelioma*). Many of the vessels in question might be described as endothelial cells arranged in more or less thick columns, with empty channels. In some columns, indeed, there was no obvious lumen.

* Charcot and Gombault, 'Arch. de Physiol.,' 1876, second series, vol. iii, p. 272.

† D. Gerhardt, 'Arch. f. Exper. Path. und Pharm.,' 1892, vol. xxx, p. 1.

‡ D. Nasse, 'Arch. f. klin. Chirurgie,' 1894, vol. xlviii, p. 885.

§ Vaughan Harley and W. Barratt, 'Journ. of Path.,' 1901, vol. vii, p. 203.

|| For a review of this whole subject see F. Parkes Weber, "On Biliary Cirrhosis of the Liver, with and without Cholelithiasis," 'Trans. Path. Soc., Lond.,' 1903, vol. liv, pp. 103–135. This paper contains numerous references to the literature of the subject.

¶ Sections of the spleen from a previous case of "Congenital Obliteration of Bile-Ducts," described by F. P. Weber in 'Proc. Roy. Soc. Med.,' 1909, vol. ii (Section for Disease in Children), p. 231, were examined by Dr. Ledingham. He found there likewise "plasma-cells in large numbers arranged round the sheaths of the vessels or indiscriminately among the pulp-cells."

The microscopical examination of the *proximal portion of the hepatic bile-duct* (the portion which contained inspissated bile) disclosed a remarkable condition. The walls were very rich in connective tissue and in the "endothelial" type of young blood-vessels which has just been described. The hepatic duct was lined by inspissated bile; no epithelial layer could be made out. But its lumen, in addition to the inspissated bile, contained a good deal of loose connective tissue, containing blood-vessels, similar to the loose connective tissue which replaces a blood-clot in the interior of a blood-vessel, when organisation and vascularisation of the thrombus has occurred. It seems probable that the plug of inspissated bile in the interior of the hepatic bile-duct in our present case has been dealt with by Nature in the same way in which Nature usually deals with a thrombus blocking a blood-vessel, namely, that it has been treated as a foreign body, and has been partially removed by a process of organisation and vascularisation.

Our sections of the *common bile-duct (choledochus)*, or rather, of the connective-tissue cord which represented it, showed on microscopical examination no trace of any lumen at all. They merely showed connective tissue very rich in the "endothelial" or embryonic type of young blood-vessels previously described. Quite possibly, therefore, the cord representing this part of the *choledochus* never had any channel at any time (see later on, under "Remarks"). It is worth mentioning also that in some of our microscopical sections of this region we cut across two veins of ordinary type, which showed patches of thickening and calcification of the elastic layer immediately external to their endothelial lining.

REMARKS.

The present case differs from the case of congenital obliteration of bile-ducts previously described by Dr. Weber (May, 1909)* in that in the previous case the obstruction to the entry of bile into the intestine was not always complete, whereas in the present case, as we have already pointed out, no bile could have entered the intestine whilst the child was in the hospital. Nevertheless, the patient in the present case lived to six months of age—one month longer than the first child did. In the present case it seems difficult to account for the supposed absence of jaundice at birth.

* F. P. Weber, 'Proc. Roy. Soc. Med.,' 1909, vol. ii, Section for Disease in Children, p. 231.

The chief points of interest are those connected with the examination of the extra-hepatic biliary channels. The almost complete absence of evidence of active inflammation, both in the pervious ducts and in the impervious ducts (or rather, cords), makes it seem highly probable that the disease in the present case is to be regarded as primarily an error of development in the bile-ducts, with secondary biliary cirrhosis of the liver as a result of obstruction to the bile-flow. This corresponds with the views recently expressed both by R. S. Lavenson* and by John Thomson.† As already mentioned, it seems, indeed, in the present case quite likely that the connective-tissue cord representing part of the common bile-duct (choledochus) never contained a lumen at any time. This would fit in with the teaching that the bile-ducts are originally solid cords, "Remak's fibres," which subsequently become hollowed out to form channels. According to this view, the so-called congenital "obliteration" of bile-ducts would really be due not to obliteration, but to failure of formation of the lumen in some portion of the extra-hepatic biliary tract, and the condition, as Lavenson points out, would be better termed "congenital atresia" of bile-ducts.‡

Probably the only *operation* which could have been performed was the establishment of a biliary fistula, as suggested by M. Hirschberg§ and J. Rotter,|| by boring a hole (*e.g.* with a Paquelin's cautery) into the substance of the liver ("hepatostomy"), endeavouring in that way to drain away the bile by opening up one or more large intra-hepatic bile-ducts. This method was tried by Dr. Michels in the case of an adult with chronic jaundice due to primary carcinomatous obstruction at the junction of the two hepatic bile-ducts, and the case was described by him and Dr. Weber in the 'Medico-Chirurgical Transactions' for 1905.¶ But there is great difficulty in keeping a biliary fistula of this kind ("hepatostomy") open for a long time, and it is unlikely that the child in the present case would have benefitted from such an operation. In regard to the question of operation in the rare cases of supposed congenital stenosis of bile-ducts in older children and adults a real indication seems to be the

* R. S. Lavenson, 'Proc. Path. Soc. Philadelphia,' 1907, and 'Journ. Med. Research,' Boston, 1908, vol. xviii, p. 61.

† John Thomson, Allbutt and Rolleston's 'System of Medicine,' second edition, London, vol. iv, Part I, pp. 103-108.

‡ R. S. Lavenson, *loc. cit.*

§ M. Hirschberg, "Die Behandlung schwerer Lebererkrankungen durch die Anlage einer Leber-Gallengangsfistel," 'Berl. Klinik,' 1902, vol. xv, Part 172.

|| See H. Scheuer, 'Berl. klin. Wochenschr.,' 1902, vol. xxxix, p. 138.

¶ Weber and Michels, 'Med.-Chir. Trans.,' London, 1905, vol. lxxxviii, p. 247.

presence of a distinct tumour (bile-retention cyst) accompanied by chronic obstructive jaundice (Victor Veau*). An interesting case of obliteration of the common bile-duct (choledochus), acquired in early life, was that of a girl, aged 19 years, who had suffered from obliterative jaundice for sixteen years before Sir F. Treves† performed the operation of cholecyst-enterostomy.

In regard to *diagnosis*, cases of ordinary "icterus neonatorum" can be recognised by the early clearing up of the jaundice, whereas in the present class of cases the jaundice gradually deepens, although the degree of jaundice in some cases varies from time to time. Cases of what may be termed "familial icterus gravis neonatorum,"‡ which have been shown not to be connected with congenital obliteration of bile-ducts, and are apparently not necessarily connected with sepsis or inherited syphilis, have to be distinguished. Their pathology is still imperfectly known, but they have been shown not to be connected with congenital obliteration of bile-ducts, and, though the spleen is probably generally enlarged, the liver shows no constant changes, and the fæces are not always, if ever, "acholic." Moreover, in some of these there has been "Kernicterus" of the brain, and it is possible that the cerebro-spinal fluid obtained by lumbar puncture would contain bile-pigment, which it does not contain in most jaundice cases.§

Infective jaundice in newly born children, connected with umbilical phlebitis, etc., may be distinguished by the local and constitutional signs of infection. The "pericellular" (better, "intra-lobular" or "intercellular") hepatic cirrhosis of inherited syphilis is not usually accompanied by jaundice, but cases of jaundice in children apparently due to syphilitic stenosis of bile-ducts have been recorded by Beck|| and H. D. Rolleston.¶ From such syphilitic cases the cases of congenital obliteration of bile-ducts (like our present one) may be

* V. Veau, 'Bull. de la Soc. de Péd. de Paris,' 1910, vol. xii, p. 289.

† Treves, 'Practitioner,' London, 1899, vol. lxii, p. 18.

‡ See especially J. Pfannenstiel, "Ueber den habituellen Ikterus gravis der Neugeborenen," 'Münch. med. Wochenschr.,' 1908, vol. lv, p. 2169; and Nahr's paper on the same subject, *ibid.*, 1909, vol. lvi, p. 139. See also H. D. Rolleston, "Recurring Jaundice in Four Successive Pregnancies and Fatal Jaundice in Three Successive Infants," 'Brit. Med. Journ.,' 1910, vol. i, p. 864. Pfannenstiel and Rolleston give references to several published series of cases which fall into the group of "familial icterus gravis neonatorum."

§ See, however, an exception to this rule in the case of an adult recorded by Mosny and A. Javal, 'Bull. de la Soc. Méd. des Hôpitaux de Paris,' 1909, third series, vol. xxviii, p. 280.

|| Beck, 'Prager med. Wochenschr.,' 1884, vol. ix, pp. 257, 266, 284. See also the references to the literature of the subject given by Lavenson, *loc. cit.*

¶ H. D. Rolleston, 'Brit. Med. Journ.,' 1907, vol. ii, p. 947.

distinguished by the absence of the ordinary signs of inherited syphilis and by a negative Wassermann's sero-reaction for syphilis (the reaction was negative in our present case).

The gradual deepening of the jaundice in cases of congenital obliteration of bile-ducts, the enlargement of the liver as well as of the spleen, and (above all) the definite clinical evidence that the jaundice is obstructive, distinguish these cases from cases of congenital acholuric (so-called "hæmolytic") jaundice with splenomegaly.*

In regard to *further investigation* on the subject of so-called "congenital obliteration" of the bile-ducts. What is chiefly needed is obviously very careful microscopical examination, in all cases, of the bile-ducts, and the connective-tissue cords representing the bile-ducts, especially in the neighbourhood of the termination of the lumen. Information of this kind would likewise be very valuable in the rare cases of chronic obstructive jaundice supposed to be due to stenosis of the choledochus, of congenital origin or dating from the first years of life.†

ENLARGEMENT OF THE TUBERCLE OF THE TIBIA.

By R. C. ELMSLIE, M.S., F.R.C.S.,

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ENLARGEMENT of the tubercle of the tibia during adolescence is by no means a new disease, but our accurate knowledge of it dates from the publication of observations by Osgood in America, and Schlatter in Germany, in 1903. Both these observers described the condition as due to the tearing off of the epiphysis of the tubercle, or of a portion of it, by muscular violence, occurring usually in athletic boys. There is no doubt that this is not invariably the pathology of the condition, but in the main their account holds good.

The accounts of the mode of ossification of the tubercle of the tibia given by different anatomists vary considerably. The tubercle during early years is a cartilaginous mass continuous with the upper epiphysis of the bone. In this (according to Rambaud and

* For the literature on this subject see F. P. Weber and G. Dorner, "Four Cases of Congenital Acholuric Jaundice in One Family," 'Lancet,' London, 1910, vol. i, pp. 227-232.

† See the papers by Treves and by Veau already referred to, *loc. cit.*

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Renault) a separate centre of ossification appears at the age of eight to ten years, or sometimes later at twelve to fourteen. This extends rapidly, and soon unites with the anterior part of the upper epiphysis, so as to form a tongue projecting down from it. Sappey, Poirier, and Testut all describe this separate epiphysial ossification; according to the latter it appears at the age of twelve to fourteen, and unites with the upper epiphysis a few months later. According to some more recent anatomists the separate centre is only occasionally present, the usual method of ossification being by extension from the upper epiphysis. Whichever view is correct it is certain that at the age of fourteen the tubercle consists of a tongue-like process extending down from the anterior part of the upper epiphysis of the tibia and separated from the shaft by a layer of cartilage.

This process unites to the shaft at eighteen to twenty-four, union occurring first at the upper part and extending downward. According to Parsons this epiphysis is a traction epiphysis formed in lower mammals as a sesamoid bone in the lower part of the ligamentum patellæ, and uniting to the shaft and to the anterior part of the upper epiphysis. Parsons states that the separate epiphysis is always present in the lower mammals, but that it is often slurred over in man, the bone growing down from the upper epiphysis. He also points out that union takes place from above downward, the upper part, which is more strongly pressed against the head by the pull of the ligamentum patellæ, uniting first.

The insertion of the ligamentum patellæ spreads out over the lower part of this epiphysis and the neighbouring part of the shaft. It is strengthened, according to Morris, by strong aponeurotic expansions on either side, which are inserted into oblique ridges on the head of the tibia as far out as the lateral ligaments.

Complete separation of the tubercle by violence is rare; it necessitates fracture of the connection of the tubercle with the upper epiphysis and tearing of these lateral aponeuroses. Unless the latter are torn very little separation can occur. Poland could find only ten cases recorded, most of which occurred in boys of sixteen to eighteen, and were due to violent action on the quadriceps muscle in the act of vaulting. When separation was complete effusion of blood into the knee-joint occurred. Fixation on a back splint, with pressure over the tubercle, gave good results, with bony union at least in some of the cases.

That enlargement of the tubercle which is not uncommon in children of twelve to eighteen, and is now often called Schlatter's disease, was described by Osgood and Schlatter as the result of

partial separation of the tubercle by similar muscular violence in jumping or running. It is more common in boys than in girls and usually occurs at fourteen to sixteen; it may occur, however, as early as eleven, or as late as eighteen or nineteen. The subjects are often athletic and the condition is ascribed to injury in the gymnasium or on the football field, but it is the exception to find the condition ascribed to one specific injury. This is possibly because slight injuries to the knee region are so frequent in children, and because the painful swelling may come on some weeks or months after the injury.

The complaint is of swelling of the tubercle, which is tender on pressure, or painful when any exercise is taken in which the quadriceps is exerted powerfully. The pain may even persist at night. Occasionally both knees are affected, and such cases arouse the suspicion that trauma is only one element in the causation. Such a case is the following:

P. E—, a girl, aged 10½ years, attended hospital for pain in the left knee with swelling of the tubercle and adjacent part of the knee-joint, which was painful on pressure. A skiagram taken at the time was said to show no disease. At the age of thirteen she returned with both knees painful and the tubercles enlarged. Skiagrams at this age showed the tongue-like process from the head into the tubercle well developed, but hollowed out on the anterior surface, two small separate spicules of bone lying over this cup on the right knee, a single such spicule on the left knee. The only possible cause which can be assigned is constant kneeling. Since the age of ten this girl had done a great deal of scrubbing.

In a second bilateral case there was a definite direct injury to one knee, but the other was the more painful.

J. L—, a boy, aged 14 years, was kicked on the right knee on February the 10th, but had no accident to the left side. Pain came on in the left knee in March. When seen on April the 2nd he had considerable enlargement of the right tubercle, less enlargement of the left. Skiagrams showed that on each side the tongue-like projection of the head into the tubercle was absent, but the upper epiphysis was united to the shaft anteriorly by a rounded piece of bone. In the tubercle was a separate ossific nucleus widely separated from the shaft, but not displaced upward. This nucleus was much too small to fill the tubercle, which must have been largely cartilaginous. The appearances on the two sides were identical except that on the right the ossific nucleus in the tubercle showed a transverse line as if fissured.

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The skiagraphic appearances are typical of those found in other cases. In one group the normal tongue-like process is present; it may be more widely separated from the shaft at its lower end than usual, and may be fissured across the neck. Further, it is rough on the anterior surface and may show a cup-like depression. One or more additional pieces of bone lie superficial to it, apparently in the ligamentum patellæ.

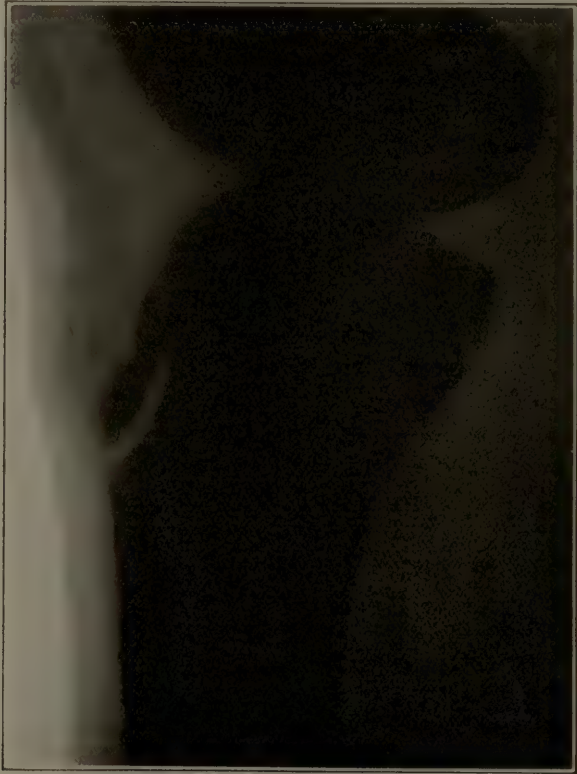


FIG. 1.—Skiagram of right knee of P. E—. (Taken by Dr. Finzi.)

In the second group the normal tongue-like process is absent and is apparently replaced by an anterior union between the upper epiphysis and the shaft, and by a separate ossific centre in the tubercle, which may be in one or two pieces. Osgood ascribed these to separation of the lower part of the ossific centre from the upper epiphysis by fracture, displacement following. This theory is negated by the absence of any upward displacement of the

fragment, and also by the discovery that when this separate ossific centre is present it is present in both knees, that is to say it is a developmental abnormality.

In later stages additional spicules of bone are to be seen in the skiagram lying higher in the ligamentum patellæ.

The painful condition may last for a few months or for two years or more. In many cases the pain recurs at intervals as a result of

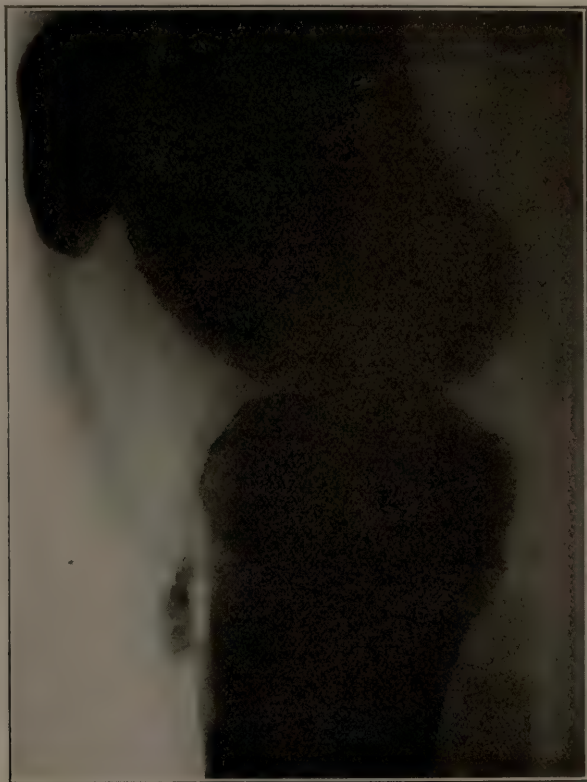


FIG. 2.—Skiagram of right knee of J. L.—. (Taken by Dr. N. S. Finzi.)

exertion of the quadriceps muscle or of slight direct injury to the tubercle, either by a blow or by kneeling. Eventually the pain subsides, but a permanent enlargement of the tubercle may persist.

When the condition has once been seen the diagnosis of subsequent cases is obvious. But enlargement of the tubercle of the tibia may be mistaken for tuberculous disease in this part of the head of the tibia, or for syphilitic periostitis. These should be ex-

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cluded by the exact localisation of the swelling, and by the absence in the skiagraph of a cavity (in the case of tubercle) and of periosteal new bone (in the case of syphilis).

Treatment must be symptomatic, consisting of rest of the knee, particularly from any severe action of the quadriceps, by the use of a back splint during the painful stages. A local anodyne such as lin. belladonnæ or counter-irritants may also be used. As a rule the



FIG. 3.—Skiagram of an adult with old-standing enlargement of the tubercle of the tibia. (Taken by Dr. Pirie.)

pain rapidly subsides and in a few months the knee may be used as freely as ever although the swelling persists. In one case, however, the pain was still considerable after two months' treatment in plaster-of-Paris. The permanent enlargement of the tubercle remaining is of no importance.

The original theory that these are instances of separation, partial or complete, of the tubercle of the tibia will not account for all cases.

Some cases are bilateral, some are ascribed to one or more direct injuries or to occupations requiring kneeling, and in some no history of any sort of injury can be obtained. The additional spicules of bone formed over the tubercle are actually embedded in the ligamentum patellæ or in the cartilaginous epiphysis.

J. A—, a boy, aged 14 years, fell on his left knee, and six months later attended hospital on account of pain and swelling. The skiagraph showed that the tongue-like process from the head was absent; a separate ossific patch lay well down in the tubercle and was fissured across. The diagnosis of tuberculous disease was made and an exploratory operation performed. The epiphysis was found to consist of a large mass of cartilage in which the small ossific masses were embedded; the cartilage was firmly attached to the diaphysis. No disease was found. Plaster-of-Paris was applied for two months and then removed. The pain, however, continued for seven or eight months and then gradually subsided.

These facts, together with the subsequent appearance of small additional spicules of bone, seem to indicate that the condition is probably a chronic inflammatory process, due to slight injuries of varying nature, and leading to inflammatory enlargement of the cartilaginous tubercle and irregularities in its ossification. The two types seen in skiagraphs probably represent the same process occurring in two different types of ossification of the tubercle. But it is clear that our knowledge of the ossification of the tubercle of the tibia is imperfect, and requires to be studied further by means of skiagraphs of adolescents.

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A RETROSPECT OF OTOTOLOGY, 1910.

By MACLEOD YEARSLEY, F.R.C.S.

Senior Surgeon to the Royal Ear Hospital, etc.

THE papers upon otology bearing upon the diseases of children have been fairly numerous this year, and those of most value are given in the following short retrospect:

In the department of *anatomy and physiology* the most important contributions are those by Frazer on the early development of the

Eustachian tube and naso-pharynx (B. M. J., October the 15th), and Scott on the physiology of the human labyrinth (L., June the 11th). *Clinical investigation* has been represented by White and Zlotz on the cytology of chronic middle-ear discharges (Lgsp., May), Maschke, who insists upon the importance of routine otoscopy in the febrile affections of infancy and early childhood (C. M. J., June), and Kyle (Lgsp., January), who points out that there are individual physiological differences in hearing as in sight, and that these must not be confounded with pathological deafness. Howell Evans's paper (B. J. C. D., November) on auricular and peri-auricular dermoids discusses the origin of some tumours of the external ear. *Acute otitis* is discussed as to its ætiology by Neumann and Ruttin (A. f. O., Bd. lxxix, Heft 1 and 2), and Bourguignon (A. I. L. O. R.) considers pouching of the tympanic membrane occurring therein.

Middle-ear suppuration and its complications calls, as usual, for a good deal of attention. Vaccine therapy has been written upon by Dwyer (N. Y. M. R., July the 30th), Reik and Randall (Lgsp., September), Mather Sill (N. Y. M. R., August the 6th), and Nagle (J. of L., December). Barr and Rowan (B. M. J., March the 26th) continue their researches upon optic neuritis in suppurative otitis, and Mathewson (D. M. M., September) writes on mastoiditis in infants. Several very interesting cases have been recorded, as, for example, one by Lindley Sewell (L., January the 1st) of chronic suppurative otitis media in a little girl with a labyrinthine fistula and spontaneous nystagmus, one by Scott of streptococcic lateral sinus thrombosis with early pulmonary metastasia in a child, aged 11 years (J. of L., December), and a note on brain abscess formations, including the case of a child, aged 7 years, by MacCuen Smith (Lgsp., August). The treatment of that most terrible of all otitic complications, acute meningitis, has been dealt with by Dench (A. J. M. S., February), and by Barr (B. M. J., November the 26th), who suggests the practicability of treating the condition by means of lavage of the cerebro-spinal subarachnoid spaces.

The subject of *ear complications in general diseases* has also provoked some notice during the year. Banks Raffle (S. H., February) has opened new ground in a note on middle-ear disease as a complication of whooping-cough, and Biggs (B. M. J., July the 30th) has related a case of lateral sinus thrombosis in which the Klebs-Loeffler bacillus was present. An important discussion upon aural tuberculosis in children (B. M. J., November the 26th) was opened by Milligan at the annual meeting of the British Medical Association in London, and Marriage (J. of L., December) has described the

removal of a large tuberculous polypus from the middle ear of an infant, aged 7 months. Another important discussion was held in the Otological Section of the Royal Society of Medicine (J. of L., November) upon syphilis in relation to otology, in which views were expressed by West, Whitehead, McKenzie, Yearsley, McDonagh, Pritchard, Scott, Nourse, Davis, Waggett and Cheate. Mayer (A. f. O., Bd. lxxvii, Heft 3 and 4) has also recorded his researches in the pathogenesis of congenital syphilitic deafness.

Deaf-mutism has similarly received a large share of attention. An important symposium upon deaf-mutism was held in America, in which Kerr Love, amongst others, took part (Lgsp., October). Urbantschitsch has discussed the ætiology of deaf-mutism (J. of L., December), and Macleod Yearsley the part played by congenital syphilis in the acquired form of the condition (J. of L., April and May). Ruttin (J. of L., December) and Albert Gray (J. of L., May) have both contributed to the pathological anatomy of deaf-mutes. Scripture (N. Y. M. R., July the 23rd) is responsible for some remarks on deaf-mutism, and Macleod Yearsley for the results of an examination of 500 cases in the London County Council Schools, published in the report of the Council's Education Committee. Finally the question of the age at which the education of the deaf child should commence was discussed by Macleod Yearsley at the School Hygiene Congress in Paris (B. J. C. D., October).

At the School Hygiene Congress held in Paris this year some important papers dealing with otological subjects were read, but have not as yet been published. A new journal, 'School Hygiene,' made its appearance on January the 1st, and its February number contained a lecture upon the ear and nose in school medical inspection by Macleod Yearsley.

Other papers that cannot well be classified but which require noting as having appeared during the year are: An interesting case of sarcoma of the petrous bone in a child, reported by Bowen and Carlyll (B. M. J., June the 25th), and papers by Randall (A. J. M. S., July) upon How far is heredity a cause of aural disease? Macleod Yearsley on the duty of the general practitioner to the deaf child (L., September the 10th), and Emerson on the responsibility of the general practitioner and the specialist in the prevention of deafness (B. M. S. J., March the 17th).

ABBREVIATIONS.

A. f. O.—'Archives für Ohrenheilkunde.'

A. I. L. O. R.—'Archives Internationales de Laryngologie, d'Otologie, et de Rhinologie.'

- A. J. M. S.—'American Journal of the Medical Sciences.'
 B. J. C. D.—'BRITISH JOURNAL OF CHILDREN'S DISEASES.'
 B. M. J.—'British Medical Journal.'
 B. M. S. J.—'Boston Medical and Surgical Journal.'
 C. M. J.—'Cleveland Medical Journal.'
 D. M. M.—'Dominion Medical Monthly.'
 J. of L.—'Journal of Laryngology, Rhinology, and Otology.'
 L.—'Lancet.'
 Lgsp.—'Laryngoscope.'
 N. Y. M. R.—'New York Medical Record.'
 S. H.—'School Hygiene.'

Sixth Congress of Gynaecology, Obstetrics, and Paediatrics.

Held at Toulouse, September the 22nd—27th, 1910.

SECTION OF PÆDIATRICS.

Curable Forms of Acute Tuberculosis in Children.—MM. AVIRAGNET and TIXIER described three forms: (1) 'Those in which the disease is localised (*a*) in the serous membranes, (*b*) in the viscera—especially the heart, in which it may leave valvular lesions—the kidneys, and lungs; (2) forms with multiple foci; (3) forms without obvious localisations (typho-bacillosis of Landouzy), which might follow an acute, subacute, or fulminating course. Tuberculous invasion in these cases occurs as a rule by the lymphoid tissue of the naso-pharynx with a latent localisation in some groups of lymphatic glands, usually those of the mediastinum. Affection of these glands often does not become apparent until after a febrile period of several weeks. Tuberculous infection of the tracheo-bronchial glands causes the following series of symptoms: (1) Broncho-pulmonary symptoms, viz. modification of the vesicular murmur at the right apex, asthmatic attacks, localised bronchitis and pulmonary congestion. (2) Lymphatic symptoms, consisting in transient enlargement of the cervical axillary and inguinal glands. (3) Hæmopoietic symptoms, such as diminution of the red cells and moderate leucocytosis. Enlargement of the glands is one of the most valuable signs of latent tuberculosis. The most efficacious treatment is a methodical superalimentation and continuous open-air treatment in a sea climate.

Typhoid Fever in Infants.—M. ACHARD recorded two cases, in one of which the infection had been conveyed directly by the mother, who died of ataxo-adynamic typhoid fever, and in the other it had been conveyed indirectly by a nurse who looked after the child and typhoid cases at the same time. Mothers suffering from typhoid might suckle their children provided they did not attend to the child in any other way. Typhoid fever in an infant, being easily overlooked, might be the cause of an epidemic in adults.

Hypertrophic Pyloric Stenosis.—MM. FREDET and GUILLEMOT.—This condition is relatively rare according to Ibrahim. There are 598 cases on

record. Anglo-Saxon races seem predisposed and the Slav and Latin races comparatively immune. Boys are more frequently attacked than girls. The characteristic symptom appears about the third week after birth and consists of vomiting, which at first is frequent and scanty, and later very abundant and seldom. Histologically there is an increase in the number of muscular fibres in the two layers of the muscular coat. Inflammatory lesions are secondary and inconstant. The authors reject the theories of hypertrophic spasm and inflammatory neoformation, and adopt the theory of congenital malformation. Treatment should at first be medical, and when that fails, and from the first in cases of large pyloric tumour with much gastric dilatation and marked peristalsis, operation should be performed. The operations of choice are pyloroplasty and gastro-enterostomy. The simplest and best method of pyloroplasty is the extra-mucous operation, which consists of longitudinal incision of the pyloric tumours without incising the mucosa. Gastro-enterostomy has been performed eighty-six times with forty-four deaths. It has the advantage of suiting all cases, but it is difficult to carry out.

Congenital Megacolon.—M. PATEL had collected 223 cases, 200 of which had come to operation or autopsy. The cases reported in the fetus were doubtful. The condition first appears in infancy, most frequently in the male sex. The dilatation may be complete or partial; in the latter case it is almost always localised in the sigmoid flexure. Three theories have been suggested for its origin: (1) Congenital malformation (Hirschsprung); (2) primary alteration of the wall (Walker, Conetti); (3) mechanical obstruction and congenital constipation (Marfan). M. Patel adopted Hirschsprung's theory. Operation consists in colopexy, colostomy, the formation of an iliac or cæcal anus, entero-anastomosis and resection. Entero-anastomosis is employed in complete dilatation and consists in uniting the ileum to the sigmoid flexure. Resection is reserved for dilatation localised to the sigmoid flexure. It is always fatal below the age of two years and seems less dangerous when performed in several stages than at once.

M. BOECKEL (Strasbourg) recorded the case of a child, now aged 9 years, and in good health, in whom he had resected 29 cm. of the large intestine at a single operation for partial dilatation at the age of two years.

M. FROELICH (Nancy) had kept four cases of megacolon in a satisfactory state for ten or twelve years by medical means only.

M. HARTMANN (Paris) had performed an ileo-rectostomy with unilateral exclusion of the intestine on a case of megacolon. Death occurred some days after the operation.

Imperforate Anus in a New-born Child treated by the Abdomino-perineal route.—MM. REMY and BLOCH-WORMSER recorded a successful case. During the first few weeks after the operation dilatation was necessary to prevent any rectal stenosis. The child was now aged 8 weeks, and showed no trace of a cicatrix on rectal examination. M. Wormser laid stress upon the easiness of the operation and the tolerance of laparotomy in the new-born.

Congenital Torticollis.—M. COUVELAIRE, from the examination of six cases concluded that this was due to a primary myopathy determined by infectious and diseases in the parents such as syphilis or plumbism.

Congenital Absence of Spinous Processes and Congenital Scoliosis.—M. GOURDON (Bordeaux) showed a case of left congenital scoliosis localised in the lumbar region in which the X rays showed the presence of a supplementary sixth lumbar vertebra. There was also complete atrophy of the tenth, eleventh and twelfth dorsal vertebrae. In spite of these malformations the scoliosis did not become apparent until the age of fifteen years.

Congenital Absence of Fibula.—M. DIEULAFÉ (Toulouse) showed skiagrams of congenital absence of both fibulae. On the right side there was a very short tibia without an upper epiphysis: on the left side the tibia was unusually long and showed atrophic lesions, which constituted the first degree of an intra-uterine fracture.

Ophthalmia Neonatorum.—M. TERSON (Toulouse) recommended protargol and argyrol at the onset of severe attacks.

Eczema in Infants.—M. ROCAZ.—In addition to digestive disturbances and arthritic heredity the glands of internal secretion, especially the thyroid play a part in the ætiology. The eruption may be complicated by a secondary infection constituting impetiginous eczema and be followed by renal, broncho-pulmonary, asthmatic, and intestinal complications. Sudden death may succeed the rapid disappearance of the eruption. Appropriate diet should be ordered, and external treatment applied with caution. Sea-water has not proved so successful as Variot and Quinton found, and in any case should be reserved for the protracted forms. Thyroid medication in grave cases gives excellent results: it should be given in doses of 5 cgrm. daily, gradually increased until 10 or 15 cgrm. are reached.

Hysteria in Children.—Prof. RÉMOND (Metz) and M. VOIVENEL (Toulouse) quoted several cases, and pointed out the relation between hysteria and dementia præcox. Charcot had formulated the rule that the hysteria of the child does not persist, because the conditions favourable for its development in early life disappear in the ordinary course of development. These conditions are: (1) The preponderance of the alimentary canal in the child, hence its rôle in the ætiology and symptomatology of infantile hysteria (anorexia, gastralgia, uncontrollable vomiting, peritonism, etc.) (2) The preponderance of the sympathetic nervous system. This explained the intensity of vaso-motor phenomena. (3) The instability of the pyramidal system, which was exemplified by convulsions and contractures on the one hand, and by paralyses on the other. (4) The feeble development of the association fibres in relation to the projection centres and relative independence of the latter. This accounted for the frequency of mono-symptomatic forms, the influence of suggestion, and the rôle played by subconscious ideas.

London and Provincial Societies.

THE ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, November the 25th, 1910.

Dr. E. CAUTLEY, *President, in the Chair.*

Morphœa in Band Form in a Girl, aged 5 years.—Dr. J. L. BUNCH.—Three years ago the child fell and bruised her forehead. Shortly afterwards a patch of sclerodermia appeared on the right temple, gradually spreading upwards on to the scalp and downwards on to the nose. Over the affected area the hair had disappeared and the skin was tense and atrophic.

The PRESIDENT discussed the case.

Splenic Enlargement.—Dr. E. CAUTLEY showed a boy, aged 6 years, whose family history was good and free from tubercle and syphilis. Three weeks previously he had pain and swelling in the ankles of two days' duration, followed by pain in the knees. The eyelids were puffy and œdematous, especially on the right side. The feet were puffy on the dorsum, and the ankles and feet blue and cold. The urine was normal, and the swelling quickly subsided. The spleen was considerably enlarged and the liver slightly so. The blood showed a leucopenia. The case was possibly an early splenic anæmia or the remains of anæmia splenica infantum.

Dr. SUTHERLAND suggested a diagnosis of tuberculosis, and Dr. H. D. ROLLESTON one of syphilis.

Mr. MILNER BURGESS and Dr. CARE also spoke.

Extensive Necrosis of the Lower Jaw in a Girl, aged 7½ years.—Mr. H. S. CLOGG.—Two months previously the child had toothache and swelling of the lower part of the face and submaxillary regions. The two lower central incisors fell out and the child became very ill, the temperature rising to 103° F. The mouth could be opened to half an inch only; the tongue was swollen and the tissues in the floor were indurated. The teeth in the lower jaw were loose and some carious. On the gum and lower lip were large grey sloughs and a copious purulent discharge, and the alveolus in the incisor region was extensively exposed. The loose and carious teeth were removed and the mouth was irrigated with antiseptics. For two days there was little improvement, and as the pus yielded a pure streptococcus 10 c.c. of serum were injected with marked benefit. Four further injections caused a fall of the temperature to normal on the tenth day. The child rapidly improved in health, but the sequestrum was still firmly attached.

Dr. J. D. ROLLESTON thought that the condition was suggestive of Vincent's ulcero-membranous stomatitis, which he had seen occur after scarlet fever and followed by necrosis of the jaw.

The PRESIDENT had seen only one such case and that followed measles.

Patent Ductus Arteriosus with deficient Interventricular Septum.

—Dr. T. R. WHIPHAM showed a girl, aged 11 years, in whom there was a history of cardiac distress since infancy. The child was undersized; she presented no "clubbing" of the fingers and only occasional cyanosis. The dulness of the heart and great vessels was increased to the left. The heart's impulse was wavy and at the apex a blowing systolic murmur was audible. Over a localised area in the pulmonary region there was a continuous thrill and a loud "churning" rumble extending throughout systole and diastole. There were no signs of enlarged glands.

Nævus Verrucosus Linearis in a Boy, aged $3\frac{1}{2}$ years.—Dr. PARKES WEBER.—The skin of the trunk, neck and extremities was largely affected with a condition of pigmented and verrucose nævus, the distribution of which in lines and patches was typically "segmental" or "zoniform." The abnormality began when the child was seven months old.

The PRESIDENT thought that the name "ichthyosis" was more appropriate.

Congenital Transposition of the Viscera in a Girl, aged 10 years.

—Dr. PARKES WEBER.—Clinical signs and a skiagram showed a complete transposition of the large viscera. There was a systolic murmur at the base of the heart.

Rheumatoid Arthritis in a Boy, aged 13 years.—Dr. F. LANGMEAD.

—The condition began two years ago, and the hips, knees, ankles, elbows, wrists and hands had been affected. The axillary glands were slightly enlarged, but no enlargement of the spleen had been detected. Skiagrams showed that the enlargement of the joints was peri-articular. Vaccine therapy, the vaccine being prepared from the culture of an organism found in a tooth-socket, did not modify the temperature, which varied between 97.5° F. and 99.8° F., or the opsonic index. Improvement, however, had been brought about by treatment with thyroid extract, which was given on account of the mother having had myxœdema for fifteen years. The only evidence of the disease left was some fixation of the hips. An excised gland showed no evidence of tuberculosis and yielded no bacterial growth.

Dr. PORTER PARKINSON had not seen any good effects from thyroid or various sera in such cases. The most useful drug for reducing temperature and pain was salicylic acid.

Dr. H. D. ROLLESTON remarked that the question had been raised whether Still's disease was not a tuberculous condition. Tuberculous conditions were often improved by taking thyroid extract.

Dr. T. R. WHIPHAM doubted whether enlargement of the lymphatic glands and spleen were a necessary accompaniment of the so-called Still's disease, and Dr. SPRIGGS thought that such enlargements depended upon the acuteness of the disease and the age of the patient.

Mr. MILNER BURGESS and Dr. GARROD also spoke.

Malformation of the Heart.—Dr. F. LANGMEAD showed a male infant, aged 8 months, who was cyanosed, but did not show any appreciable "clubbing" of the digits. The heart was enlarged to the left, and a systolic bruit could be heard all over the chest, but especially along the left sternal margin, the point of maximum intensity being at the xiphi-sternal junction. The murmur was accompanied by a thrill.

The PRESIDENT considered that there was a perforated septum and

possibly transposition of the aorta and pulmonary artery, or that the aorta arose in part from the right ventricle.

Dr. HIGGS thought that the lesion was pulmonary stenosis without perforation of the septum, as the murmur could not be heard in the back.

Old Healed Tuberculous Disease of Knee-joint with Increase in Length of the Limb.—Mr. O. L. ADDISON.—The boy first had signs of tuberculous disease of the knee in 1906. He was treated for six months with splints, and afterwards was allowed to get about with a Thomas's splint. For the last eight months he had been walking about and was free from recurrence. Movement in the joint, which at first was limited, was almost perfect, but the leg was one inch longer than the other, the femur and tibia being each half an inch longer. Skiagrams showed increased translucency of the tibial and femoral epiphyses with some irregularity of outline.

Mr. MUMMERY thought that the lengthening was due to the inactivity and enforced rest of the limb during the most rapidly growing period of life, and that the difference would in time diminish.

Sarcoma of the Femur in a Girl, aged $1\frac{1}{2}$ years.—Mr. O. L. ADDISON.—The growth, which was in the right femur, had been noticed for two months, and did not appear to penetrate the bone (X rays). The liver and spleen could both be felt, and there were a few small glands in the left groin. It was not proposed to operate.

Interstitial Hernia in a Boy, aged 2 years, who had been operated upon for Left Inguinal Hernia.—Mr. O. L. ADDISON.—There was a sub-cutaneous hernia of the size of a pigeon's egg above Poupart's ligament on the same side and the left testicle was undescended.

Cardiolysis for Adherent Pericardium in a Boy, aged 6 years.—Dr. G. A. SUTHERLAND.—Eleven months ago the patient was admitted suffering from subacute rheumatism and rheumatic nodules. Until this time heart trouble had never been suspected. There was marked bulging in the præcordial region and a heaving impulse over a large area. The heart was greatly enlarged and a double murmur was heard in the mitral area, the systolic part being of a musical quality and conducted well into the axilla. The boy became a chronic invalid from the heart affection, which was diagnosed as adherent pericardium with dilatation and hypertrophy. Six months ago Mr. Clayton Greene removed parts of the cartilages of the fourth to seventh ribs at the sternal junction to allow more freedom of action for the heart. Since then the boy had had one attack of cardiac failure, but on the whole he had been better and much more active.

A Paper on Congenital Obliteration (or Congenital Atresia) of Bile-ducts with Hepatic Cirrhosis was read by Dr. PARKES WEBER and Dr. G. DORNER (*vide p. 1*). The liver and microscopical sections from the case were shown.

Dr. H. D. ROLLESTON upheld the view that such conditions were caused by a descending cholangitis which led to the obliteration of the small bile-ducts, and were not due to a vice in development.

The PRESIDENT, Dr. GARROD, and Mr. MUMMERY also spoke.

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH :
METROPOLITAN BRANCH.

November the 25th, 1910.

The Antitoxin Treatment and Prophylaxis of Diphtheria.—Dr. E. W. GOODALL commented on the recent Local Government Board order which sanctioned the provision by the Councils of the Metropolitan Boroughs of a temporary supply of diphtheria antitoxin as a prophylactic and curative agent for the poorer inhabitants of these districts. He advocated the immediate administration of antitoxin in undoubted cases of diphtheria in doses varying from 2000 to 20,000 units. Half the amount should be repeated the next day if there was the slightest increase in the severity of the symptoms. Few cases were benefited by doses of over 20,000 units. Children should receive larger doses than adults. Antitoxin should not be employed indiscriminately in all doubtful cases, but only in those cases of laryngeal obstruction without obvious cause or in faucial angina of obscure nature accompanied by marked constitutional disturbance. In patients over ten years of age antitoxin might be withheld until the disease had been diagnosed definitely. Dr. Goodall deprecated the wholesale employment of antitoxin as a prophylactic owing to the occurrence of serum phenomena and subsequent risk of anaphylaxis.

CLINICAL SOCIETY OF BATH.

November the 4th, 1910.

Adrenal Hæmorrhage in an Infant.—Dr. RUPERT WATERHOUSE showed the two adrenals, deep purple in colour, evidently as the result of hæmorrhage into their substance, of a male child, aged 8 months. Well nourished and previously perfectly healthy, the child had, on the morning of October the 30th, appeared drowsy and out of sorts, but had taken nourishment well and had not seemed to be in pain; in the afternoon it vomited and was taken to the Royal United Hospital, obviously very ill. Its temperature was 100·4° F., pulse 140, respirations 72. Râles could be heard in the chest, especially at the bases behind. Two hours after admission a blotchy hæmorrhagic eruption appeared on the trunk, arms, and thighs, and two hours later the child died, cyanosed.

At the autopsy the adrenals and skin were as described. No other noteworthy changes were found beyond congestion and œdema of the lungs. Microscopical examination of the adrenals showed that whilst bleeding had occurred into both cortex and medulla, the latter had suffered most, its structure being completely destroyed and replaced by effused blood. Cultures from the adrenals, spleen, and cerebro-spinal fluid proved negative. The child had never been vaccinated. Its mother had had one other child and two miscarriages. Of fourteen similar cases in children below the ages of two and fifteen months collected from the literature by Dr. Waterhouse, no fewer than ten were unvaccinated, one was vaccinated and had good marks, and in the other three this point was not mentioned.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

October the 21st, 1910.

Cerebral Injury in an Infant, followed by Blindness.—Dr. MAXWELL TELLING.—A girl, aged 1 year, was admitted to the Hospital on August the 16th with the following history: A fortnight before she had fallen down a flight of stairs; she vomited immediately after and was unconscious for several hours. A hæmatoma was present over the right posterior half of the parietal bone. There were no other symptoms or signs, but the child had been unable to see since the date of the accident. After the hæmatoma subsided a linear fissure of the parietal bone, about three inches long and about half an inch wide at its middle, was detected. Through this there was bulging whenever the child cried or strained. On admission to the Hospital the edges of the fissure were a little thickened. On admission there was absolutely nothing abnormal to be made out other than that the child could not see. All the pupil reactions were normal. Fundi normal. The fissure gradually narrowed. On August the 27th, nearly a month after the accident, the bulging through the fissure had practically ceased. About a month later vision began to return, the child having a slight perception of near objects. She was discharged on October the 8th with the fissure nearly closed and obviously a very considerable amount of visual power. For at least the first month after the accident there was total blindness, so far as it was possible to determine in an infant of this age. There was no depression at the edges of the fracture. The question was raised as to whether the fissure might not have been present before the accident, having been due to some irregular development of the parietal bone. Clearly there must have been some damage to the visual centres, probably in the nature of subpial hæmorrhage.

A Case of Transient Rotary Nystagmus after a Fall.—Mr. MICHAEL A. TEALE showed a girl, aged 8 years, who was brought to the Eye Department of the Leeds Public Dispensary on March the 9th, 1909, having fallen down twelve of the house stairs on the previous day. She was not thought to have lost consciousness but was dazed after the fall and vomited, complaining soon afterwards of dizziness and double vision. When seen at the Dispensary no bruise or evidence of a blow could be found on her, but she was unsteady in her walk, had divergent strabismus periodically, paresis of the left internal rectus muscle, and marked bilateral rotary nystagmus in all positions of the eyes. The nasal half of each optic disc was swollen and hazy, while the retinal veins were much engorged. Both ears were normal. She was kept in bed for ten days, at the end of which time nothing abnormal could be found except the same condition of optic discs as previously noted and slight fulness of retinal veins. The nystagmus, paresis, divergence, giddiness and double vision had disappeared. There had been no headache throughout the illness, nor abnormality of pupil reactions. When seen again on October the 17th last she was quite well, but showed the same swelling of the nasal half of each disc, which, as measured by the ophthalmoscope, appeared to be about two-thirds of a millimetre more prominent than the temporal half. Each eye read $\frac{5}{6}$ and was free from hypermetropia.

Cutaneous Horn of the Left Upper Lid.—Mr. MICHAEL A. TEALE.—A child, aged 9 years, showed a horn, one third of an inch long, projecting from the centre of the margin of the left upper lid immediately above the margin. It was first noticed nine weeks previously and was curved in a forward and upward direction. The attached half was red and fleshy while the remainder was yellow and horny.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

November the 2nd, 1910.

A Case of Acquired Hydrocephalus cured by Opening of the Foramen of Magendie.—Mr. COTTERILL and Dr. BRUCE showed this case. The patient, when admitted to the Royal Infirmary, was a girl eleven years of age, suffering from severe recurrent headaches, vomiting, some impairment of sight, and a degree of optic neuritis. This condition had followed upon an acute cerebral attack in August, 1908, which was evidently of the nature of a posterior basal meningitis. While in hospital the patient's condition became steadily aggravated. There was a recurring loss of control of bowels and bladder; abolition, first of the left abdominal, and then of the right abdominal reflex; increasing weakness, first of the left leg, with increase of the deep reflexes and the Babinski sign, then a similar condition in the right leg, until walking became practically impossible. The mental faculties became more dulled, the blindness practically complete, the head enlarged, and the sutures were shown by radiograph to be separated. The muscles of the back and upper extremities also became paralysed.

Mr. Cotterill endeavoured to give relief first by puncture of the lateral ventricle through the separated right coronal suture. As this did not improve the patient's condition, it was decided to re-open the foramen of Magendie by removal of a large portion of the occipital bone.

The result has been a gradual diminution in the size of the head, gradual and almost complete recovery of motor power, sight, intelligence and control of the organic reflexes.

One remarkable feature, due probably to the free removal of the occipital bone, was the absence of external drainage of cerebro-spinal fluid.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

December the 1st, 1910.

Sprengel's Deformity.—Dr. ALEXANDER MITCHELL exhibited a case of congenital elevation of the scapula in relation to the thorax and to the scapula of the other side. The patient, a girl, aged 7 years, had a high left shoulder. The scapula was higher and smaller than that of the opposite side, and rotated so that its angle lay further from the spine. The clavicle, arm, forearm and hand were all shorter than on the other side. Shoulder movements were distinctly limited, and at the elbow there was marked limitation of extension. Response to the faradic current was wanting in the lower part of the trapezius, the explanation probably being that the muscle was here replaced by fibrous tissue.

Philadelphia Pediatric Society.

JOINT MEETING WITH THE SECTION ON PEDIATRICS OF THE NEW YORK ACADEMY OF MEDICINE, November the 8th, 1910, CHARLES A. FIFE, M.D., President.

Nasal Diphtheria.—Dr. EDWIN E. GRAHAM read a paper on the symptoms, management and treatment of nasal diphtheria. He described diphtheritic and non-diphtheritic membranes. The symptoms of nasal diphtheria might be severe or mild. He spoke of the dangers of mild cases; the importance and duration of quarantine; necessity of bacteriology and animal inoculation; the association of nasal diphtheria with measles and scarlet fever; the necessity of hospitals for diphtheria cases; return cases; negative cultures; detention wards; and finally, the effect of anaphylaxis upon the treatment.

Dr. ROWLAND G. FREEMAN said that, although anaphylaxis was a real danger, he thought this fact should modify their use of antitoxin only by inducing them to use a very large initial dose, and so, if possible, avoid this danger which would exist in the administration of subsequent doses. Should, however, there be any indication for a subsequent dose, the danger of anaphylaxis was so small in comparison to the danger of diphtheria that this danger should not in any way modify their conduct. The occurrence of this phenomenon was certainly extraordinarily rare. The speaker could not recall a single case in his experience where such a reaction had occurred, although he mentioned two cases of infants who had received between 40,000 and 45,000 units in repeated doses with no bad reactions.

Dr. M. NICOLL, jun., said that in spite of the very general use of antitoxin as a measure of prevention, statistics showed that there was little or no decrease in the incidence of diphtheria, and he believed that a chief cause of this was the spread of the disease through the non-recognition of nasal cases, with few or no constitutional symptoms, and the lack of proper quarantine measures against actual cases, especially those that assume a chronic form. It was not generally known how very fatal acute nasal diphtheria often was in the case of young children, especially when it occurred as a complication of scarlet fever or measles. He referred to four children in adjoining beds recovering from scarlet fever who died as a result of nasal diphtheria. He regarded the latter form of the disease, when occurring under the conditions mentioned, as only secondary in severity to the laryngeal type. Dr. Nicoll objected to syringing the nares, believing that irrigation was much more effective, and if done under low pressure, less likely to force fluid into the Eustachian tubes. The patients should be well confined by means of a sheet firmly pinned about them and at first a few drops only of the solution introduced, and then, after the patient had a breathing spell, the irrigation continued until the anterior and posterior nares were freed. By this method plugs of loosened membrane could readily be removed. Normal salt solution heated to the body temperature was preferable to the various antiseptics recommended. In his experience, anaphylaxis might be disregarded as influencing the treatment. Dr. Nicoll showed a specimen of a typical nasal plug removed by irrigation, together with a photograph of the method of performing irrigation, showing the way the child was wrapped up in the Willard Parker Hospital.

Dr. B. VAN D. HODGES said that they should remember that there were

diphtheria carriers, just as there were typhoid carriers. He referred to a recent outbreak of diphtheria in Plainfield, N.J., in which an unsuspected case of post-nasal diphtheria had probably acted as a carrier, causing the spread of the disease.

Dr. T. S. SOUTHWORTH emphasised the value of enlarged cervical glands as a diagnostic symptom, especially in cases in which there was only slight nasal discharge. One of the commonest types of nasal diphtheria was that seen in marasmic infants, accompanied by some bloody or chocolate-coloured nasal discharge. This condition was often overlooked, especially in a ward. In the treatment of this condition, Dr. Southworth used a creamy suspension of stearate of zinc in albolene. Both discharge and bacilli disappeared rapidly under its use in the nose.

Dr. L. E. LA FÉTRA asked Dr. Graham what he did with these chronic cases of nasal diphtheria in hospitals in whose cultures were found diphtheria bacilli which were non-virulent.

Dr. GRAHAM answered that he considered it legitimate to allow these cases with non-virulent diphtheria bacilli to return home and to mingle with other children.

Some Anatomical Features of the Child's Thorax and their Practical Application in Physical Diagnosis.—Dr. GEORGE FETTEROLF and Dr. J. CLAXTON GITTINGS demonstrated sections and dissections made of bodies of infants which had been injected with 10 per cent. formalin solution and frozen. They discussed the postural relations of the thymus, ribs, heart, lungs, and their various component parts.

Dr. DAVID BOVAIRD, jun., said that the interest and instruction with which these demonstrations had been received showed that the curricula of most of our medical schools lacked a new and valuable course—one in applied anatomy. The application of anatomy to surgery was an old theme; that it could be made to throw so much light on unsettled points in medicine was to most of them rather a revelation. The studies of Drs. Fetterolf and Gittings held so many facts of interest that it was quite impossible to do justice to all of them. Two applications of points made might be suggested. First, the demonstrated relation of the left innominate vein made it clear that one of the earliest effects of enlargement of the thymus must be pressure upon that vein with resulting cyanosis of the neck and face on that side. The fact that such cyanosis was notably absent in the clinical conditions associated with enlargement of the thymus, especially in the cases of thymus death, constituted a strong argument against the theory that these conditions were caused by mechanical pressure of the enlarged gland upon the trachea and neighbouring structures. Secondly, the relations shown to exist between the heart, the left lower lobe and the pulmonary veins served to explain some of the puzzling conditions found in the course of acute pericarditis, with effusion. They were all familiar with the fact that many cases of such pericarditis presented certain physical signs over the base of the left lung posteriorly. These signs were usually accepted as due to pressure of the enlarged sac on the left lung near the root. But they often found that the signs of compression gradually changed to those of fluid in the pleura, and that on aspiration there was considerable serous effusion in the sac. This sequence of events was explained by the demonstration of the fact that the enlarged heart (or pericardial sac) would press not only on the lung but on the left pulmonary veins, and thus the serous effusion resulted from the mechanical obstruction to the return circulation.

Dr. G. R. PISEK spoke of the relations between the lobes of the lung and the chest-wall and its importance in thoracic surgery as well as physical diagnosis. He asked whether Dr. Fetterolf had found any changes in the relations of the heart and lungs as the infant grew to childhood—for instance, in children of three and five years of age.

Dr. FETTEROLF answered that they had been unable to secure the bodies of elder children for comparison, but that they hoped to supplement the present work with future studies.

Dr. LA FÉTRA said that Drs. Fetterolf and Gittings had shown most beautifully how the heart of an infant occupied most of the chest antero-posteriorly, and that this explained the dulness so commonly found upon deep percussion on the left side of the infant's back. They showed also very well the position of the right auricle in the fourth right interspace, thus confirming the statement of Lees that the enlarged right auricle could be made out by dulness in this situation and for one or two spaces higher on the right of the sternum.

Dr. GITTINGS said that Dr. Bovaird had probably misinterpreted their meaning. From the anatomical standpoint they noted two facts in regard to the thymus: first, that it reached back to the trachea at one level, and second, that the left innominate vein interposed between the trachea and thymus at a lower level. They advanced the theory that swelling of the left innominate vein, resulting in pressure on the trachea, might account for some of the cases of sudden death of children during anæsthesia. Preceding these deaths the cyanosis was often observed. In regard to direct pressure by the thymus on the trachea, they stated that it would seem that "sudden death might be caused by even moderate swelling of the gland." Although tracheal pressure failed to explain the symptomatology of most of the cases of so-called "thymus death," yet this anatomical relation furnished some ground upon which the advocates of the "pressure theory" could stand.

Albumin in the Urine of Normal Children.—Dr. S. McC. HAMILL and Dr. K. D. BLACKFAN discussed the frequency and significance of albumin in the urine of normal children, after a long series of urine examinations. Chemical examination for bodies other than albumin was made; the stools were also examined. After discussing their routine, which showed a remarkable percentage of albumin in the urine of normal children, they discussed the significance of their findings. Reference was made to both serum and the so-called nucleo-albumins.

Dr. H. D. CHAPIN said that this paper confirmed the opinions held by many observers. Some years ago Dr. Chapin concluded that any bodily disturbance in infants was liable to be followed by the appearance of albumin in the urine. In a series of cases of gastro-intestinal, pulmonary and other diseases, a large majority of the children showed albumin and casts in the urine. Of 86 cases of gastro-intestinal disease, 75 had albumin and 37 both albumin and casts; 57 pulmonary cases had 49 showing albumin and 32 both albumin and casts; of 45 cases of general diseases, neither gastro-intestinal nor pulmonary, 31 had albumin in the urine. All of these cases came in routine practice and were not selected. Dr. Chapin, since that time, had regarded these findings as of no special significance.

Dr. JOHN HOWLAND said that these studies of Dr. Hamill and Dr. Blackfan have both a practical and theoretical interest. They showed plainly the very great frequency of albumin in the urine of perfectly healthy children. All realised that albumin with or without a few casts in an other-

wise normal child did not necessarily mean nephritis, but Dr. Howland doubted if any had recognised heretofore how very common a finding this was. It only showed that valuable information could be obtained from a sufficient number of careful examinations. Under ordinary circumstances they did not think much of an occasional trace of albumin, but after scarlet fever or diphtheria such a finding would occasion considerable concern. In such a position it would be comforting to know that albumin, especially that precipitated by 50 per cent. acetic acid, was regularly and almost normally present at some time. The theoretical interest attached to the question whether these might not be instances of alimentary albuminuria. It was possible to produce in men and animals by feeding them with excessive quantities of albumin an alimentary albuminuria just as it was possible to produce by sugar an alimentary glycosuria. Murlin was able to show that gelatinuria resulted after dogs were fed on large quantities of gelatin, and Fr. Müller stated that white of egg appeared in the urine after its excessive ingestion; but others had been unable to determine the character of the albumin that appeared. Clinical methods failed. Gideon Wells attempted to show it by anaphylactic experiments, but could get no evidence of the presence of any albumin but serum albumin. With children it was possible that the question might be somewhat different. The intestine and the kidney of the young were more permeable to foreign substances. This could be demonstrated for bacteria, and the interesting observations of Wile seemed to show that starch granules as such could be absorbed from the intestines, traverse three sets of capillaries, and be excreted in the urine. Recently Stecker had attempted to prove the presence of foreign proteins in the urine of children with albuminuria by precipitin tests. He obtained a precipitate with the serum of an animal immune to beef protein in about 25 per cent. of his cases, but precipitin tests were somewhat unreliable and could not be accepted as entirely conclusive. It would seem, however, that with the increased permeability of the child's intestines, there was a greater opportunity of foreign albumin being absorbed and excreted by the kidneys, and it would be interesting to see whether the albuminuria in such cases as Dr. Hamill had investigated could be entirely prevented by a temporary diet without meat, eggs, or milk.

Dr. FLOYD M. CRANDALL said that the paper was in line with his own clinical experience. He had come to regard occasional traces of albumin in the urine of children, as shown by modern delicate tests, as of little clinical significance. He was, however, surprised at the frequency of such findings in the careful observations reported by the readers of the paper.

Dr. W. B. HOAG referred to a case of his, a boy born in the tropics, who had had malaria while there. He came to New York at the age of 6 years, and was apparently well. After over-exertion, followed by chilling, acute cedema with albuminuria and casts developed. He recovered, but now had distinct traces of albumin, but no casts nor questionable epithelium. He was now well and 10 years old. Dr. Hoag discussed the probable future of this patient. Was he to be considered a "normal child"?

Dr. E. H. BARTLEY considered the examination of the urine in children of great help in diagnosis. Traces of albumin were of slight significance following exertion, exposure to sudden changes of temperature, etc. Nucleo-albumin was normally found in the urine. The slightest irritation of the renal mucous membrane would increase it, and if persistent, would produce albuminuria. A positive test for nucleo-albumin only indicated a slight increase over the normal amount. There seemed to be no constant relation

between traces of albumin and the hyaline casts and cylindroids. Hyaline casts and cylindroids, therefore, had little diagnostic significance.

A Case of Rabies.—Dr. ALFRED HAND, JUN., Dr. C. Y. WHITE and Dr. JOHN REICHEL reported a case of rabies, with autopsy and complete pathological findings. The autopsy report gave a general negative pathology. The Negri bodies were demonstrated in the central nervous system.

Dr. REICHEL added that he had tabulated the pathological findings in nine suspected cases of hydrophobia, from which he had examined the spinal cords. In six of these cases there was proof that the patients had died of rabies.

Société de Pédiatrie, Paris.

October the 18th, 1910 (*Bulletin No. 7*).

Syphilitic Rickets and Serum Diagnosis.—MM. LEROUX and LABBÉ read the notes of fourteen cases in which Wassermann's reaction was reported on by M. Levaditi, of the Pasteur Institute. Whenever symptoms of active congenital syphilis existed the serum diagnosis was positive. In the cases where the result was negative there were only signs of dystrophy and rickets. It seems that syphilitic rickets has no close relationship with active early congenital syphilis; that it sometimes develops later without early congenital syphilis; and that it depends more especially on general disturbances of nutrition developed under the influence of hereditary syphilis, *i. e.* that it is essentially a parasymphilitic dystrophy. Their conclusions confirm the opinion of Prof. Fournier, that rickets was syphilitic only in origin and not by nature, *i. e.* it was parasymphilitic.

Cerebral Abscess of Traumatic Origin; Cured by Operation.—MM. TRIBOULET and SAVARIAUD showed a girl, aged 8 years, who, seven months previously, had sustained a fall on the head followed by profuse epistaxis. Gradually a slight degree of facial paresis developed and was followed by left hemiplegia. There was considerable cachexia; little or no rise of temperature. There had been three convulsive attacks. Trephining was performed, and three days later a quarter litre of pus evacuated. Recovery was complete.

Chloro-anæmia during the Course of Chronic Nephritis.—MM. A. PAISSEAU and LEON TIXIER reported the case of a boy, aged 9 years, the subject of nephritis of scarlatinal origin, with acute exacerbations accompanied by anasarca, hæmaturia, and cardiac trouble. No improvement resulted from liquid diet, nor milk diet, nor a salt-free *régime* of flesh food. The disturbances only subsided when a hyponitrogenous diet was given. Two symptoms showed, however, no change—the albuminuria, and a condition of chloro-anæmia characterised clinically by a marked discoloration of the skin and mucous membranes and striking diminution of hæmoglobin in contrast with a normal number of corpuscles. Two interesting points were the character of the anæmia and its treatment. The hæmatological charac-

teristics of anæmia during the course of nephritis with dropsy are very variable; a severe type of pernicious anæmia has been observed, but almost always the type is much less definite, with a diminished number of red corpuscles and a variable globular value. Changes in the number of white corpuscles are also seen, and the absence of eosinophilia has been regarded as of serious prognostic import. Chloro-anæmia, on the other hand, is rare, and depends more upon the age of the subject than on the cause or anatomical form of the renal lesion. As regards treatment, milk has hitherto been regarded as a specific in this complication of chronic nephritis in young subjects and iron salts useless, if not harmful. Notwithstanding, a month's treatment with protoxalate of iron brought about the disappearance of the anæmia, which the rational treatment of the nephritis by diet had been powerless to effect.

Purulent Meningitis (Tetragenous) treated by Lumbar Drainage for thirteen days.—M. GEORGES ROSENTHAL showed the instrument devised by him in a case he treated on this principle and which is figured in the 'Bulletin.'

Landry's Paralysis during an Epidemic of Anterior Poliomyelitis.—M. SCHREIBER described a case of Landry's paralysis in which there was found a diffuse acute myelitis with marked lesions in the grey matter and especially the anterior horns. Above, the lesions had involved the bulb and laterally had spread to the meninges. Clinically, the case presented all the classical symptoms of Landry's disease. This disease, at one time regarded as a morbid entity, tends more and more to be looked upon as a syndrome due to lesions which may be radicular or nervous, isolated or multiple, and associated or otherwise with changes in the meninges. The case is of great interest from the point of view of the relationship of Landry's disease with acute poliomyelitis. Inoculations of a glycerine extract of the bulb were made in a monkey but gave negative results, but the author thinks that the relationship of the two diseases is more than probable considering the epidemic which prevailed at the time.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

The future of congenital syphilis (*'La Clin. Infant.'*, October, 1910, No. 19, p. 600).—HOCHSINGER communicated to the Medical Society of Vienna the results of his researches on syphilitic infants treated at the institute and followed after leaving during a number of years. Out of 516 births, 253 were still-born or died in a few days. Out of 263 who survived birth, 55 died before five years in spite of specific treatment. The first signs of syphilis showed themselves in 54 cases on the skin, in 200 in the nasal mucous membrane, 95 times in the bones, and 50 times in the viscera. Most frequently the earliest manifestations developed in several places at once, *i. e.* on the skin and nasal mucous membrane 134 times, in the skin, nose and bones 67 times, with associated visceral lesions in 26 cases, in the skin, nose and viscera 24 times, in the nose and bones twice. The nose alone was attacked 7 times, the skin alone 3 times. Syphilis beginning

in the bones and viscera was especially seen in living first-born infants; in later children the manifestations were less serious, without osseous or visceral lesions. In the second infants of syphilitics, cutaneous and nasal lesions were noticed in 68 per cent.; in third children 73 per cent.; while in first-borns these affections only occurred in 33.6 per cent. The earlier infants are as a rule much more seriously attacked than the later ones. Affections of the central nervous system and viscera, especially the liver, have the worst prognosis. Out of a given number of infants with syphilitic hydrocephalus, 16 recovered and 3 died. In 17 per cent. of the cases there was paralysis caused by osteo-chondritis or by luxation of the epiphysis. They generally yield under the influence of specific treatment. Congenital syphilitics show a marked predisposition to rickets, but without marked deformity. The large fontanelle ossifies more rapidly than in the non-syphilitic rachitic. The result of the early cranial synostosis is seen in prominence of the frontal and parietal bosses. Among the 208 cases of congenital syphilis that were followed up over a long period, 113 turned out mild, 56 of average gravity, and 39 serious. Relapses occurred in 40 of the mild cases, in 56 of the average, and in 32 of the serious. Specific treatment was ineffective in more than half the cases in preventing relapses, which were absent in only 37 per cent. of the cases. Of infants in whom treatment was not commenced until three months after birth, not one was free from a relapse. When treatment was begun before the end of the third month relapses only occurred in one third of the cases. In first-born relapses were more serious and more frequent (73 per cent.) than in other children, 45 per cent. for second, and 38 per cent. for third children. It should be noted that among first-borns the number of relapses was also greater (4 or 5 against 3 among other children). In 31 out of the 134 families observed the children had no relapses; none of the mothers presented signs of syphilis, and 21 fathers had undergone specific treatment before the procreation of the first child. In 30 other families with maternal syphilis, 65 infants were born alive of which 58 had relapses. Thus maternal syphilis furnished the largest amount of relapses. In private practice relapses are extremely rare during the first year, the syphilitic parents having undergone efficient treatment. Cutaneous manifestations are more serious during the course of relapses when the child is older. Above the age of 6 years gummata are frequent in the bones, most frequent in the tibia. In cases of delayed syphilis lesions of the nasal mucous membrane and larynx, viscera, circulatory system are noticed, but rarely, also, hyperplasia of lymphoid tissue and gummata of the glands. As persistent stigmata may be noticed general disturbance of development, cutaneous scarring, deformities of the skull and nose, Hutchinson's teeth, and ocular mischief. It is especially when syphilis has been serious that it leaves stigmata of this kind. Among a number of congenital syphilitics Chvostek's sign is found between the ages of 3 to 10 years; such children are often subject to headaches on which specific treatment has no influence. Wassermann's reaction was tried in 26 children over 5 years of age; it was positive in 12 cases of evident syphilis, and in 3 out of 6 old cases without symptoms. However, in 8 children free from syphilis it was positive in 3 instances. Out of these 208 children 51 are quite healthy now, and it may be therefore concluded that 25 per cent. of children born of syphilitics may develop into healthy men and women.

VINCENT DICKINSON.

Hereditary syphilis and Wassermann's reaction (*Rev. de Méd.*, 1910, pp. 395 and 757).—**Bertin and Gayet.**—This paper is based on the
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study of 328 cases, which the authors divide into three groups: (1) 25 children with well-marked signs of hereditary syphilis; in all but one the reaction was positive; (2) 255 children, either healthy, or affected with some other disease than syphilis, in whom the reaction was negative; (3) 48 cases in whom the symptoms were suggestive without being absolutely pathognomonic of hereditary syphilis. In all these the reaction was positive. In this group are included cases of infantilism, epilepsy, deaf-mutism, and other cases whose symptoms might have been attributed to tuberculosis or alcoholism. The authors draw attention to the rarity in their cases of an association of the pathognomonic features of hereditary syphilis. Thus in only two cases was the complete Hutchinsonian triad present.

J. D. ROLLESTON.

Syphilitic (congenital) myocarditis and arteritis (*Allg. Wien. med. Zeit.*, May 17, 1910, p. 224).—**Bauer** described a case in a girl, aged 13 years, who had suffered for some years from palpitation, and pain in the legs. The patient showed pigmentation at both angles of the mouth, perioritis on both tibiæ, and slight enlargement of the spleen. There was dilatation of the left ventricle, bradycardia with increased tension. Wassermann reaction positive.

M. D. EDER.

Heredo-tuberculosis (*New York State Journ. of Med.*, March, 1910, p. 128).—**J. L. Archambault** maintains that the view should not yet be given up, that tuberculosis may be in certain cases a congenital disease, an *intra-partum* as well as an *extra-partum* infection. His paper is almost entirely based on the work of **Hans Rietschel** (*Jahrb. f. Kinderheilk.*, 1909, vol. xx, fasc. 1, p. 62). He also discusses the questions—Is an infection of the placenta at the seat of some tuberculous lesions necessary for the transmission of the tuberculous infection from the mother's organism to that of the child? and, Cannot transmission be affected along with the multiple biologic exchanges occurring all through the *intra-partum* life from one organism to the other, by means of the blood-stream, regardless of any definite local alteration? He points out that the facts are not numerous enough to settle the questions definitely, but there is no denying that they re-open the controversy as to the existence or non-existence of hereditary tuberculosis.

JAMES E. H. SAWYER (Birmingham).

Two cases of congenital tuberculosis (*Zentrbl. f. Kinderheilk.*, 1910, p. 321).—**E. Gergely**.—The first child lived twenty days, and the second fifteen days; both presented the appearances of miliary tuberculosis. The mother of the first child died of miliary tuberculosis, and the mother of the second had catarrh of the right apex. Up to 1903 only twenty similar cases had been recorded.

J. D. ROLLESTON.

Tuberculosis in sucklings (*St. Petersburg. med. Woch.*, June 5, 1910, p. 317).—**Ettlinger** gives much statistical information derived from the foundling hospitals of St. Petersburg and Moscow. In 10,065 necropsies (1877-79), 53 cases were found; in St. Petersburg from 1872-1907 there were yearly 1121 necropsies and 57 cases of tuberculosis. The prognosis is absolutely bad and the treatment is purely symptomatic; its success *nil*.

M. D. EDER.

The teeth as a point of entrance for the tubercle bacillus (*Journ. of Amer. Med. Assoc.*, August 6, 1910, p. 495).—**Moorehead** reports a series of

ten cases, chiefly in children, in which tuberculous lymphadenitis occurred as a result of infection through carious teeth, tubercle bacilli being found either in the cavities or in the sockets of the teeth. Starck has recorded three such cases. Zanby has collected forty cases of tuberculosis of the alveolar process in which the bacillus gained entrance either through the pulp canals or "spaces between the teeth," and Cook nine others. The teeth in children seem to be an important source of infection which is often overlooked.

T. R. WHIPHAM.

The relation of the tonsil to tuberculous adenitis ('*Med. Record*,' II, 1910, p. 515).—**F. S. Matthews** points out that the fact that the tonsil could be entirely removed without serious consequence to the individual was no argument for or against the usefulness of the normal tonsil. What is wanted to be known is: Are the tonsils uniformly, occasionally, or usually a source of tuberculous adenitis? After quoting other writers, the author gives his own results with the tonsils of sixty children. Over fifty of these were whole tonsils of all sizes and shapes. Not one of fifty-five showed any evidence of tuberculosis. In four cases suffering from tuberculosis of the cervical glands the tonsils showed signs of the disease.

MACLEOD YEARSLEY.

Idiosyncrasy to cow's milk in infants ('*Med. Klin.*,' July 24, 1910, *abst. Journ. A.M.A.*').—**Zybell** has found records of twenty-three cases of actual idiosyncrasy to cow's milk and adds three of his own. Only one case has been fatal. In the others the symptoms have subsided on stopping the cow's milk and feeding with small amounts of breast milk. The writer thinks that the idiosyncrasy is the result of some constitutional anomaly, and this view is supported by the fact that several members of the same family or different generations may show the same tendency. Even an hour or two after taking cow's milk the temperature may rise to 104° F. and over. In the fatal case reported the fever kept up for nine days, terminating at 106° F. With the fever the child looks collapsed, the skin is pale and cool or cyanotic and the respiration shallow and rapid, the sign suggesting an intoxication, but as a rule subsiding after a few hours. Gastro-intestinal disturbances are common and occasionally an eruption occurs. The patients ranged from nine to forty-two weeks old. The idiosyncrasy in all but one case has been overcome by the cautious administration of very small quantities of milk and disappeared as abruptly as it developed. The exception is a girl, aged 15 years, who is still unable to take even the smallest quantity of milk.

T. R. WHIPHAM.

Lactose in the dietary of infants ('*La Clin. Infant.*,' August, 1910, No. 16, p. 481).—**M. Variot** criticises the results of Pehu and Porcher with regard to the value of lactose as a food ('*Rev. d' Hyg. et de Méd. Inf.*,' IX, 1910). He considers that it may have laxative properties due to lactic fermentation in the digestive track. But if it is used as a drug in certain infants who are constipated it does not follow that it should be recommended as a daily food, since the idiosyncrasies of infants towards lactose are such that even in small doses it is sometimes purgative. It is far inferior to saccharose, which can be easily obtained pure as it is crystallised, while lactose often has a disagreeable odour owing to impurities, and costs double as much. He considers that lactose should be only used as a drug, and requires careful handling as such when given to constipated infants.

VINCENT DICKINSON.

Lactose and lactic acid in the stools of children suffering from green diarrhoea (*La Clin. Infant.*, August, 1910, No. 15, p. 449).—**P. Lavielle** found that lactose given for a short time in large doses caused diarrhoea, during which lactose is found in large quantities in the urine and in small quantities in the fæces. In green stools lactose is found in excess of the total ingestion of this sugar, and where it is absent lactic acid is found. The presence of these two substances seems to result from the rapidity of the intestinal transit. The author is of opinion that lactic acid, characteristic of green stools and already present in the intestine previous to evacuation, is a normal product, produced in considerable quantity during digestion at the expense of the carbohydrates, and whose elimination is associated with a pathological condition. Its rôle in the intestine may be to excite the secretion of certain glands, or to facilitate the breaking up of certain substances and to further the action of the digestive ferments. But the author thinks that its chief use is to maintain at a nearly constant level the nature of the bacterial flora of the intestine by promoting a tendency towards mono-microbism, a rôle which explains the good results obtained by the administration of cultures of various lactic bacteria and of fermented milk such as kephir and koumiss. Lesage has shown that the green coloration of diarrhoeic stools may not be entirely due to biliverdin, but also to a green pigment secreted by a *coli*-form microbe. In the latter instance the fæces would not give the reaction of the bile-pigments. The author, in making autopsies in cases of gastro-enteritis, has noticed an intensely green colour of the bile in the gall-bladder, and that yellow semi-solid fæces present very distinct green spots. Now, bile could only give a uniform green coloration to fæces if it is already green in the gall-bladder, and the author is now engaged in investigating the origin of this local green coloration.

VINCENT DICKINSON.

Acidified milk in pædiatric practice (*Arch. of Pediat.*, June, 1910, p. 426).—**Brady**, after mentioning that the peasants of Holland fed their infants on buttermilk 150 years ago, and its recommendation in recent times by Dutch and German physicians, relates his two years' experience with 400 children at the St. Ann's infant asylum at St. Louis. Commercial buttermilk was found unsuitable; the milk was always freshly and especially prepared, in hot weather being boiled beforehand. After inoculation with lactic acid bacillus, it was stood in a warm room for twenty-four hours to ripen. Before use it was diluted with barley-water, young infants receiving two parts barley-water to one part acidified milk, and older infants an equal part or one third barley-water. Older infants did not welcome the food so much as the younger ones. A tablespoonful of cane sugar was added to a quart of the mixture, or malt sugar instead of cane sugar, if the gain in weight was not satisfactory; if there was an intolerance of fat skim milk was used. Many of the babies receiving this food were healthy and remained so; green stools were seldom seen. In the "mucous disease" of Eustace Smith the stools rapidly became normal and all mucus disappeared. Infants fed on other food who showed colic were very amenable to this food; stomatitis, rickets, and scurvy were not feared. He had not ordered this food in private practice to healthy babies, as mothers have a considerable prejudice against it; it has an unpalatable appearance, and the idea of giving such a sour concoction to babies is not appealing. Acidified milk, being a pre-digested food, allows rest for the stomach and bowels, and was found especially useful during the great heat of the summer months at St. Louis; it was in

use chiefly during this time. There was no difficulty in returning to modified milk diet. Though the children may have been under weight, it was preferable to the gastro-enteritis which formerly prevailed. Casein in the form of lactate is placed at the disposal of the infant in an assimilable form. It would seem that fat alone, and proteid alone, are not responsible for the curds in the stools of infants fed on cow's milk; both act together to produce the curdy mucous stools. In acidified milk the proteids are in very fine particles; the deleterious influence on fats is removed, hence the normal stools. The good results seem due not only to the low fat percentage, to the presence of lactic acid, and to the chemical change of the proteid, but the presence of the lactic acid bacillus plays a very definite rôle.

J. E. BULLOCK.

Primary cancer of the liver ('*Nord. Med. Arkiv*,' vol. XLII, *Intern. Med.*, No. 3. *Abst. 'Journ. A.M.A.'*).—Pfannenstill and Sjövall describe three cases of primary cancer of the liver, two of which were in children. The first was a factory girl, aged 16 years, who presented the typical syndrome of Banti's disease. The onset was sudden with pains in the epigastrium. Autopsy three years later revealed an unsuspected primary cancer in the liver. The other case was a girl, aged 14 years, who had symptoms for only a few months. In this case also there was chronic hyperplasia of the spleen and general anæmia with slight ascites, but no traces of cirrhosis of the liver.

T. R. WHIPHAM.

Congenital icterus with splenic tumour ('*Med. Press*,' August 10, 1910, p. 142).—At the Budapest Royal Medical Society Kaczvinsky reported a case of a man who had been troubled by icterus since early childhood. The patient otherwise felt perfectly well, and physical examination revealed nothing except a fairly large, firm spleen. Several sisters and brothers, his mother, grandmother, and aunt, and some other more distant relatives were just as yellow and also complained of abdominal tumour. The patient's urine contained no pathological element except bile; his fæces were never acholic, and his blood showed a moderate anæmia and polychromatophilia. The pathology of the condition is not known, but it is likely that the enlargement of the spleen is the primary condition, and that the bile in the serum results from the action of some toxin on the liver.

T. R. WHIPHAM.

A case of biliary colic occurring in a child, followed by the passage of a gall-stone ('*Indian Med. Gaz.*,' 1910, p. 300).—F. H. Gleeson describes this case, occurring in a girl, aged 1 year and 9 months. The patient had been seized with an attack of severe colic in July, 1908, and had had similar attacks every month until she came under observation in November. These continued until August, 1909, when there was a slight attack followed by the passage of a gall-stone about the size of a small pea. Since then there was no more colic. After the passage of the gall-stone jaundice occurred and lasted nearly three months. The liver extended three and a half inches below the costal margin in the nipple line. The liver was massaged thrice daily with potassium iodide ointment, and a mixture containing small doses of sodii sulph., sodii iodidi, sodii bicarb., and podophyllum was prescribed, also a powder consisting of hyd. c creta, sodii bicarb., and pulv. rhei to be given every night. Chionia was added a month later in

drachm doses to the mixture. The child eventually became quite healthy, the jaundice disappeared, and there were no more attacks of colic.

JAMES E. H. SAWYER (Birmingham).

A case of cirrhosis of the liver (*St. Thomas's Hospital Reports*, vol. xxxvii, 1908, p. 109).—**G. G. Butler**.—Female, aged 12 years. There was no history of phthisis and no alcoholic history. Indefinite abdominal pain fourteen days, with swelling of abdomen one week. The skin was a good deal pigmented. There was ascites and the spleen was enlarged. Calmette's test negative. Paracentesis several times, the ascitic fluid containing endothelial cells and finely granular oxyphiles. Urine contained blood and albumin. Hæmatemesis shortly before death. Post-mortem: Intestines and omentum adherent to anterior abdominal wall. Well-marked chronic peritonitis, with matting of intestines and localised collections of fluid. Portal vein not thrombosed. Liver small, 30 oz., pale irregular surface. Tough on section. Well-marked mixed cirrhosis on microscopical examination. Spleen very large; kidneys large; cortex swollen; acute nephritis. Pancreas normal. Dilated œsophageal veins.

JAMES E. H. SAWYER (Birmingham).

Chronic appendicitis in children (*Arch. de Méd. des Enfants*, June, 1910).—**Comby** reviews 139 cases of children in which chronic appendicitis was diagnosed and discusses the differential signs. The condition is much commoner than is generally recognised. Many cases of supposed dyspepsia, anæmia, liver affection, entero-colitis, status lymphaticus, and tuberculosis are often the effect of chronic appendicitis, while acute appendicitis is merely the lighting up of a chronic process. Periodical vomiting and indigestion are premonitory of acute appendicitis. Constipation is habitual, though diarrhœa may sometimes occur. Failure in development has been observed, but after appendicectomy the children rapidly attain their normal size. In the nervous form of chronic appendicitis the patients are moody and disinclined to play or work. Intercostal neuralgia also may be a sign, or a pain in the right leg with a tendency to limp, suggesting disease of the hip or knee. In another class there is a tendency to faintness and pallor. Headache, convulsions, urticaria, and prurigo were observed in other cases. The proof that these various conditions are caused by appendicitis lies in the fact that restoration to health occurs after appendicectomy. A spontaneous cure of the chronic inflammation cannot be counted upon, though the symptoms may be latent sometimes for years. Surgical treatment is required in the majority of cases. The danger is slight, but the diagnosis must be positive. In cases of doubt the writer advises operation, and has never regretted having done so.

T. R. WHIPHAM.

A case of megacolon (*Nord. Med. Ark.*, 1910, *Afd.* II, No. 2, p. 45).—**A. H. Meyer** records a case in a boy, aged 4½ years. Since birth he had shown a tendency to constipation, but the real symptoms of Hirschsprung's disease first appeared at the age of six months. Meyer therefore thinks that at this time a twist had formed in the sigmoid flexure, giving rise to coprostasis followed by meteorism, dilatation and secondary hypertrophy of the large intestine. The child was put on a laxative diet and treated with large enemata given with a long and broad rectal tube. No improvement occurred during his first stay in hospital, and the following two years he spent at home, where he received an enema daily, and the fæces were removed an

hour later by a rectal tube. At the age of 6½ years he was admitted to hospital again, where he was treated with large injections of water, and within a few months he was discharged cured. The success of treatment is attributed to the fact that the boy had now reached the age when physiological involution of the sigmoid takes place, in consequence of which the twist disappeared. Meyer holds the dualist view that there is a congenital megacolon the prognosis of which is bad, and an acquired variety of which the present case is an example, the symptoms of which disappear at the age of six or seven years.

J. D. ROLLESTON.

Remote symptoms from intestinal irritation in infants and children (*New York State Journ. of Med.*, March, 1910, p. 130).—**C. A. Frost** points out that intestinal intoxication and irritation is a very important aetiological factor in many apparently remote symptoms. Certain minor psychoses may occur as a result of this in children who, from heredity or other causes, are of unstable nervous organisation. Among these are included twelve cases of pica, four of pseudo-masturbation, many cases of nail-biting, and numerous other so-called bad habits, such as enuresis, faecal incontinence, squints, constant winking, head-jerking, etc. These cases are probably forms of hysteria, and are merely the child's manifestations of what in later life would be recognised as such. Tetany and cyclic vomiting are also referred to as being symptoms of intestinal irritation. In thirty odd cases of acute and chronic intestinal diseases the urine was examined, and casts and albumin were found in a few of the more severe acute cases, being considered to be due to the general toxic condition. Dr. George Carpenter's paper in *THE BRITISH JOURNAL OF CHILDREN'S DISEASES*, October, 1907, is quoted to show that an interstitial nephritis may begin in early life as the result of intestinal toxins. Certain skin affections are described as being remote symptoms of intestinal irritation, and these include two cases of angio-neurotic oedema, cases of eczema, erythema nodosum, urticaria, pruritus, etc. Conjunctivitis and sometimes a thickening of the eyelids are often found in patients suffering from chronic diarrhoea, but are more properly results of the malnutrition dependent upon an intestinal trouble. Acute pharyngitis is frequently caused by digestive disturbances, and a predisposition to a sore throat is really a weakened digestive tract. The author emphasises that every child is a neurotic, that all the symptoms which may occur from an upset equilibrium may be produced by a very slight intestinal irritant, as the infant's intestine is the mainspring of its well-being, and that the resulting remote irritations are far more profound than in the adult.

JAMES E. H. SAWYER (Birmingham).

Intestinal infections in children (*Med. Record*, 1910, II, p. 85).—**J. E. Winters**.—After stating that the excessive mortality which exists among infants is chiefly among those who are bottle-fed, the author pointed out that the tenement house population furnishes 98 per cent. of the deaths consequent upon wrong feeding. This gives rise to infectious processes which may prove rapidly fatal from the condition set up in the intestines, and if more prolonged produces broncho-pneumonia or more rarely pleuritic effusion, otitis media, and other complications. The treatment he advocated is first to clear out the bowel thoroughly with a large dose of ice-cold castor-oil. If vomiting is a feature nothing is so efficacious as the administration of hot water in drops. Water alone should be given for a considerable time, and then the infant should be fed upon a mixture composed of the top half

ounce of quart bottles of milk, water and lime-water. The milk used should be cooled immediately after being drawn, placed in bottles and kept at a temperature of 40° F. Later the top ounce instead of half ounce may be used, in dilutions varying with the age of the child. In older children farinaceous food is a specific for the diarrhœa.

FREDERICK LANGMEAD.

Treatment.

The treatment of severe forms of infantile atrophy (*La Clin. Infant.*, May, 1910, No. 10, p. 289).—**G. Variot**, in a communication on this subject, strongly advocates the use of milk superheated to 108° and homogenised. This amount of superheating, far from detracting from the nutritive value of cow's milk, modifies the casein so as to render it more digestible for the infant, while homogenisation, by emulsifying the fat globules, forms a kind of predigestion which facilitates the use of this milk by even the most feeble and atrophic children. In severe atrophy this milk may be given pure if the children are six months of age; below this age one quarter water should be added and a little sugar. If there is vomiting the author adds to each bottle a tablespoonful of a 1 in 60 solution of citrate of soda, and if intolerance persists in spite of this a small quantity of peggine is added. To stimulate growth doses of arrhenal, $\frac{1}{2}$ to 1 cntgr. in twenty-four hours, or small doses of binocide of manganese are given.

VINCENT DICKINSON.

Training in the constipation of the young (*Therap. der Gegenwart*, July, 1910).—**Budberg** draws attention to the fact that constipation is rare among children in the East. Regular habits of defæcation are inculcated from birth. When the child wakes in the morning the mother takes the buttocks of the infant between her hands and holds the child up with its back towards her, pressing its thighs against the abdomen and supporting its back with her thumbs or knees. The infant is thus induced to strain on account of its position, and is further coaxed to do so by the mother. In China and Japan infants of even two months are thus kept clean and dry, while the ills of constipation are averted.

T. R. WHIPHAM.

Treatment of Barlow's disease (*La Clin. Infant.*, July, 1910, No. 14, p. 427).—**H. Triboulet** advises—(1) Suppression of diet known to produce scurvy, as farinaceous food and condensed and humanised milk. (2) Adoption of an anti-scorbutic diet, fresh milk, raw broths of fresh vegetables. Lemon juice, from one to three coffee-spoonfuls daily. (3) When convalescence is established, meat-juice and small doses of iron, with or without rhubarb, as protoxalate of iron, rhubarb, of each 0.04 gr. (about $\frac{3}{4}$ gr.).

VINCENT DICKINSON.

Human blood-serum in hæmophilia neonatorum (*Amer. Journ. of the Med. Sciences*, June, 1910).—**Welch** reports a series of cases of bleeding in babies, the cause of which is probably due to different factors. The bleeding was either in the subcutaneous tissues, or from the gums, nose, stomach, bowel, or vulva, or in more than one of these situations: it also occurred from the umbilical cord and after circumcision. Post mortem the chief hæmorrhage was found in the brain or in the liver, the capsule of the latter being at times almost entirely dissected off. Hæmorrhages into the

internal organs and effusion of blood into the various serous cavities were also found. It is possible that some cases are true hæmophilia, while others are due to an infection either by the streptococcus, staphylococcus, or a bacillus. Normal human blood-serum is bactericidal in action and is a perfect form of food. It may be that in some cases hæmorrhage is controlled by the nutritive effect on the tissues of the infant, while in others it is possible that a thrombokinase is supplied. The method of treatment is by injection of at least 10 c.c. of serum, subcutaneously, three times a day if the bleeding is moderate. In severe cases it should be given every two hours and in larger quantities. It is important to begin the treatment early, as even slight bleeding from the cord may be accompanied by severe internal hæmorrhage if not stopped immediately.

T. R. WHIPHAM.

Serum treatment of hæmorrhagic disease of the new-born (*Journ. of Amer. Med. Assoc.*, July 30, 1910).—**Bigelow** reports three cases of severe hæmorrhage in infants, which in each instance was arrested by the injection of 5 c.c. of fresh rabbit's serum. In two of the cases the previous administration of calcium lactate had had no effect. The serum produced no untoward symptoms, and the author is constrained to attribute the arrest of the hæmorrhage to its use.

T. R. WHIPHAM.

Transfusion as a cure for melæna neonatorum (*Journ. of Amer. Med. Assoc.*, May 14, 1910).—**Mosenthal** remarks on the futility of the usual methods of controlling the severe hæmorrhages of melæna neonatorum, and reports a third case in which transfusion brought about an immediate and permanent cessation. The infant, a male, was born about two weeks prematurely, and weighed 5 lb. 2 oz. on the third day, when the melæna commenced. After eight hours the child was much collapsed, and transfusion by an end-to-end anastomosis of the femoral vein to the radial artery of the child's father was performed, though not without difficulty. The blood, however, flowed freely, and the child rapidly improved. One other bloody stool was passed, but this was evidently contained within the intestine at the time of the transfusion and no further hæmorrhage occurred. The treatment is based on the supposition that the bleeding is due to the abnormal clotting quality of the child's blood.

T. R. WHIPHAM.

An improvised pneumatic tampon for epistaxis (*Journ. of Amer. Med. Assoc.*, June 18, 1910).—**Stewart** describes an improvised tampon which he employed with success in a case of epistaxis which could not be controlled by the ordinary anterior and posterior tampons. A finger was cut from a thin rubber operating glove and tied round the end of a catheter. This was inserted into the naris and inflated by blowing into the catheter. A tampon had to be inserted into the posterior naris to prevent the glove-finger ballooning into the pharynx. The catheter was closed by doubling and tying or catching with a hæmostat, and was held out of the way by adhesive plaster.

T. R. WHIPHAM.

The treatment of hernia in children (*Canadian Journ. of Med. and Surg.*, April, 1910).—**Shuttleworth**.—That the large majority of infantile herniæ have a tendency to disappear of themselves was shown by Malgaigne sixty years ago, and Martin has shown that during the enlargement of the pelvis the mesentery is shortened and so prevents the entrance of the intestine into the inguinal or crural canals. It has been shown that increased intra-

abdominal pressure from constipation, crying, etc., is a most important cause of herniæ in children; a tight abdominal binder acts in a similar way. Oshsner has shown that a large percentage of herniæ in children will heal spontaneously if the increased abdominal pressure be relieved, which can be done by keeping the child in bed with the lower end elevated for a month or six weeks. Coughs, constipation, etc., must be relieved, and any gaseous distension of the abdomen treated. The child should not be allowed to walk, as this brings the weight of the viscera on the weak spot. The sitting position is less harmful.

J. PORTER PARKINSON.

Surgery.

A case of hypogastrodidy (*Allg. Wien. med. Zeitung*, June 21, 1910).—Neufeld describes this rare case of twins joined at the pelvis and abdomen; delivery occurred spontaneously without medical help. The right-sided child was 41 cm. long, head circumference 34 cm., mento-occipital diameter 20 cm., bi-parietal 16 cm. The left-sided child was smaller; length 37 cm., head circumference 26 cm., mento-occipital diameter 16 cm., bi-parietal 12 cm. Eyes, noses, mouths, chests and lungs normal. No heart-sounds heard in right child; over the heart of the left there was a soft murmur. Percussion showed normal dimensions in both. The individual formation of the children ceased at the lower part of the thorax, commencing at the left ribs; the abdomen and pelvis were common to the two children. At the lower part of the abdomen there was a cleft $4\frac{1}{2}$ cm. long and 2 cm. wide; the cord passed through the upper part of this in a fissure. Just beneath this was a large curved mass, probably the ectopic bladder. At the lower corner of the cleft there were four papillomatous structures. One of these resembled a rudimentary penis; there was a fine opening at the top through which no catheter could be passed. The symphysis was widely separated. There was no anus, but two linear skin creases in the perinæum. There were four arms with normal fingers; in front there were two legs with normally developed toes. From the back a third lower limb was seen, 7 cm. higher than the other two and articulated to the pelvis of the left child. The foot was a club foot with five abnormal toes. There was besides, on the dorsum pedis near the metatarsal articulation, a sixth toe. The children lived three and a half days.

M. D. EDER.

An unusual case of congenital absence of the anus and lower end of the rectum (*Med. Record*, 1910, II, p. 237).—Joseph Wiener narrates a case of an infant who was the subject of malformation of the ears and an imperforate anus. No anal dimple was present. The two halves of the scrotum were separate, and bulging between them was a cystic swelling 1 cm. in diameter. An operation was performed on the day after birth. The cystic swelling proved to end blindly. By abdominal incision the gut was found to end in a pouch in the mid-sacral region. It was opened and stitched down to the perinæal region, which had been previously incised. Recovery was delayed by difficulty in feeding the infant and by a left otitis media, but eventually he put on weight, and when discharged three months later was gaining steadily.

FREDERICK LANGMEAD.

Congenital fusion of toes (*Med. Record*, 1910, II, p. 67).—F. Griffith records a case in a male child, aged 11 months, who had a complete linear

fusion between the second and third toes in both feet. The patient was the first-born child of healthy parents. Both the mother and maternal grandmother had a similar unilateral mal-development.

J. D. ROLLESTON.

Carcinoma in early life (*"Proc. Path. Soc. of Philadelphia," 'Journ. of Amer. Med. Assoc.,' August 27, 1910, p. 794*).—**Karsner** reports a series of ten cases of carcinoma in early life at the ages of 7, 10, 11, 14, 19, 21, 22, and three at the age of 23. Five were males and five females. The duration of all the cases was short, confirming the opinion that cancer runs a more rapid course in childhood and early life than in adult life. The author's experience and a study of the literature shows that the sexes are equally predisposed to cancer, the intestine and skin being especially affected in boys and the ovaries in girls.

T. R. WHIPHAM.

A fibro-adamantinoma arising in the lower jaw (*'St. Thomas's Hospital Reports,' vol. xxxvii, 1908, p. 253*).—**S. G. Shattock**.—The growth was removed by Mr. Robinson from a patient aged 6 months, a somewhat bilobed oval tumour, two and a half inches in its chief diameter, and consisting chiefly of fibrous tissue, having developed in the right side of the lower jaw, in which it was deeply embedded, the bone being thinned over it. One of the molar teeth had been removed with the growth in which it partly lay. Histologically it consisted chiefly of fibrous tissue, but with here and there narrow tracks of epithelium, in some of which irregular calcification was in progress. The tumour was classified as a fibro-adamantinoma arising in connection with an aberrant development of dental structures.

JAMES E. H. SAWYER (Birmingham).

Vaginal racemose sarcoma in a child (*'Zeitschr. f. Geburts. u. Gyn.,' vol. LXVI, No. 3, abst. 'Journ. A.M.A.'*).—**Knoop** reports the case of a female child, aged 3 years, in whom a racemose sarcoma of the vagina recurred twice within six months, after which death ensued. The writer, insists that even an apparently simple vaginal polypus in a child necessitates the removal of the entire genital apparatus by Wertheim's method. Malignant vaginal growths in a child are more serious than in adults, and require even more energetic measures.

T. R. WHIPHAM.

Ovarian dermoid in a child, aged 8 years (*'China Med. Journ.,' 1910, p. 349*).—**Ruth B. Massey**.—A Chinese girl, aged 8 years, was brought for treatment on account of pain and swelling of the abdomen. Examination revealed a tense, movable tumour the size of a cocoa-nut in the lower part of the abdomen and slightly to the right of the middle line. The condition, which had been noticed for two months, caused no trouble till severe pain came on suddenly, and for some days the girl was unable to stand upright. The tumour then became more tender and less movable. At the operation a cyst was found and easily cleared of recently formed adhesions to the omentum: on tapping some fluid was drawn off slowly, but on aspiration the flow stopped at once. A second attempt proved equally unsuccessful. The cyst was then brought out of the abdomen, and the pedicle, which was long and twisted, was ligatured and divided. No trace of another ovary or a uterus was found. The child made a good recovery. The tumour proved to be an unilocular cyst containing fluid, in which a fine network of fibrin floated, and this doubtless accounted for the trocar becoming blocked when attached

to the aspirator. In the lower part of the cyst was a solid tumour containing hair and a small piece of bone.

DUNCAN C. L. FITZWILLIAMS.

Primary cancer of the vermiform appendix (*Nord. Med. Ark.*, 1908, *Afd. 1, No. 17, p. 9*).—**W. Wahlgren**.—A girl, aged 15 years, was admitted to hospital for abdominal pain, which had come on fourteen days previously and had gradually become localised in the right iliac fossa. Nausea and vomiting soon developed. At the operation the appendix was found to be much thickened and at its proximal end a firm yellow-brown tumour was seen obliterating the lumen of the appendix and projecting into that of the cæcum. Microscopical examination showed it to be solid carcinoma. Recovery took place in a month's time, and two and a half years after the operation the girl was found to be quite healthy.

J. D. ROLLESTON.

Bowel surgery in children : a method of cæcostomy for irrigating the large and small intestine (*Journ. of Amer. Med. Assoc.*, October 15, 1910, *p. 1356*).—**Gant** states that appendicostomy is falling into disrepute owing to the appendix being bound down by adhesions or otherwise unfit for irrigating purposes. A preferable method is cæcostomy, which allows either the large or small intestine to be irrigated. Through an incision over it the cæcum is brought into the wound, and three purse-string sutures are introduced in its outer surface opposite the ileo-cæcal valve and the intestine opened within the suture line. A Gant metal, or preferably, rubber entero-coilic irrigator, is guided through the ileo-cæcal valve, and the sutures are tied so that a circular cone-shaped valve is formed around the tube. The cæcum is then scarified and two suspensory sutures are introduced at the sides of the irrigator, which are passed through the abdominal wall and tied across the rubber tubings. When the wound is closed the irrigator is kept in place by tapes round the body.

T. R. WHIPHAM.

Round worms passed from a fæcal fistula (*China Med. Journ.*, 1910, *p. 348*).—**Ruth B. Massey**.—A Chinese girl, aged 12 years, was brought for treatment because of a sinus in the right loin, which ran upwards and forwards. The sinus dated from a vague illness three or four years previously. Treatment was at first refused, but three weeks later she was brought again on account of worms passing from the wound. The child was admitted, and on examination the sinus was found discharging pus, but no fæcal matter was seen. After a severe attack of pain an anæsthetic was given and the sinus enlarged and explored. The last rib was felt to be healthy, there was no sign of spinal mischief, and though the liver could be felt, no disease was detected. A drainage tube was inserted and a dressing applied. On dressing the wound three days later fæcal matter was discovered in which were three round worms. Santonin was administered and ten worms were found at the second dressing, eight at the third, and a gradually decreasing number were seen at each dressing for four or five days. Many of the worms were alive when found in the dressing; at the same time a few were passed *per rectum*. There was great pain while the worms were being passed but this disappeared afterwards. No more worms were passed, although, when the child was removed from the hospital six weeks later, the fistula was still unclosed.

DUNCAN C. L. FITZWILLIAMS.

Intestinal obstruction from ascarides lumbricoides (*Journ. of Amer. Med. Assoc.*, June 18, 1910).—**Venning** reports a remarkable case of a boy, aged 2½ years, who had passed eighty round worms by the mouth and anus in the course of a few days. Signs of intestinal obstruction supervened, and masses, evidently of worms, could be felt through the thin abdominal wall. During the night before operation ten worms were passed. The abdomen was opened and the small intestine seemed to be filled with worms, part of the jejunum being distended almost to the point of rupturing. Openings were made in the jejunum and ileum, and altogether 273 worms were removed, the average length being nine inches. No faecal matter was found in any part of the intestines. It was estimated that at least one hundred worms were left in the bowel. The child was very collapsed at the time of operating and died six hours later.

T. R. WHIPHAM.

Intestinal obstruction from ascarides (*Nord. Med. Ark.*, 1910, Afd. II, No. 2, p. 27).—**S. M. Mygind**.—A child, aged 18 months, developed signs of intestinal obstruction, which laparotomy showed to be due to a mass of seventeen living ascarides. Death took place two hours after the operation. The fulminating character of the attack is attributed to the toxæmia produced by the worms.

J. D. ROLLESTON.

Vermineous appendicitis (*Gaz. des Hop.*, 1910, p. 1455).—**Garin** has collected thirty-four cases, seven of which were fatal, from recent literature, of appendicitis due to trichocephalus oxyuris or ascaris. The symptoms caused by the first two are those of ordinary appendicitis, but in appendicitis due to ascaris abscess and perforation are unusually frequent. Six of the seven deaths were due to this cause. Diagnosis can only be made by examination of the faeces.

J. D. ROLLESTON.

Thread-worms in the appendix (*Journ. of Amer. Med. Assoc.*, July 9, 1910).—**Allen** records two more cases of this somewhat rare condition. In the first, a boy, aged 4 years, who was being operated upon for a right inguinal hernia, the appendix was found in the hernial sac and was removed. On opening it eleven thread-worms were found. The second case was a girl, aged 14 years, who had had an attack of appendicitis over a year previously, and several attacks of pain since. The appendix was removed, and was found to contain a ball of thread-worms at the distal end and several single worms along the walls. There were no gross changes in the walls, and it is possible that the movement of the worms caused a spasm of the appendix and so gave rise to the pain.

T. R. WHIPHAM.

Strangulated hernia in an infant, aged 16 days (*Austral. Med. Gaz.*, April, 1910).—**Moule** saw a baby who, on the sixteenth day after birth, was suddenly seized with vomiting and appeared very ill. After a slight improvement and the passage of some urine and faeces the author found a lump in the upper part of the scrotum on the right side which was irreducible even under chloroform. Operation was performed, when the sac proved to be a patent funicular process containing about four inches of purplish gut.

T. R. WHIPHAM.

Henoch's purpura with intussusception (*Lancet*, 1910, II, p. 802).—**J. H. Tonking**.—A boy, aged 5½ years, fell ill with earache, headache and vomiting on June 2. On the 10th he had pain in the joints, and on the 13th and 14th purpuric spots on the buttocks were noted. On the 18th he had severe abdominal pain, and a swelling was seen above the umbilicus.

Laparotomy performed the same day revealed an enteric intussusception which was easily reduced. The whole of the swelling was infiltrated with blood. Recovery took place. At no time were blood and mucus passed *per rectum*.

J. D. ROLLESTON.

Reviews of Books.

THE FÆCES OF INFANTS AND CHILDREN: THE SIGNIFICANCE AND TECHNIQUE OF THEIR EXAMINATION (DIE FÆCES DES SÄUGLINGS UND DES KINDES: DIE BEDEUTUNG UND TECHNIK IHRER UNTERSUCHUNG). By Dr. ADOLF F. HECHT, Physician for Children, Vienna, with a Preface by Hofrat Prof. Dr. TH. ESCHERICH. Berlin and Wien: Urban & Schwarzenberg, 1910. Price M. 8.

In this work of 180 odd pages the author discusses in an introduction and twenty-one chapters the main features of one of the most important sections of practical medicine, viz. the constitution and characters of the stools in the different diseases of children.

Prof. Escherich, in a short but illuminating preface, justifies the work. Every sentence of this is the finished product of a master hand: no translation could do it justice, *e.g.*, the following: "Bei eintretender Verdauungsstörung gibt sie uns die Richtung an, in welcher die Ursache zu suchen und die Diät zu ändern ist, selbstverständlich nicht schematisch, sondern unter Berücksichtigung aller Verhältnisse."

The author's laboratory methods are those of Schmidt and Strasburger, H. Strauss, Bendix, Rubner and Heubner, E. Freund, Czerny and Keller, and other well-known workers whose contributions to physiological and pathological chemistry are recorded in 'Zeitschrift für physiologische Chemie,' 'Zeitschrift für Biologie,' 'Zeitschrift für Experimentelle Pathologie und Therapie,' Oppenheimer's 'Handbuch der Biochemie,' 'Zentralblatt für innere Medizin,' etc.

The work is characterised by German thoroughness throughout. The chapters on estimation of total N, bacteria, blood, carbohydrates and fat are all very full and very excellent. Those dealing with the cleavage products of albumins, and the putrefactive decomposition of proteins, whilst of the highest interest to the pure physiological chemist, are as yet largely beyond the reach of practical medicine.

In the chapters on ferments and bile constituents much new work has been incorporated.

Two divisions of the last chapter, viz. on the influence of pathological states of the stomach on the characters of the stools, and insufficient nutrition in older children, should be read and digested by every practising physician.

Indeed, there is not a chapter in the book which is not worthy of careful perusal and thought.

THE SURGERY OF CHILDHOOD, INCLUDING ORTHOPÆDIC SURGERY. By DE FOREST WILLARD, A.M., M.D., Ph.D., Professor of Orthopædic Surgery University of Pennsylvania, Surgeon to the Presbyterian Hospital, etc. With 712 illustrations, including 17 in colours. Philadelphia and London: J. B. Lippincott Company. Price 28s. net.

A MELANCHOLY interest attaches to the appearance of this fine volume, the author of which died after a short illness on October the 14th, 1910, in

his sixty-fifth year. Professor Willard has left behind a worthy memorial of his reputation which will be read with interest by every pædiatrist, and as a work on orthopædics will prove indispensable to the specialist. The chapters on tuberculous cervical adenitis, genito-urinary surgery, appendicitis, tuberculous disease of the bones and joints and infantile paralysis will well repay careful perusal. In the section on orthopædic surgery the author has admirably realised the ideal which he has set up for the orthopædic surgeon, who he claims should be a surgeon, a physician, a neurologist, a physical culturist, a mechanic and an immuniser.

By way of criticism we would suggest that more space might have been given to the discussion of hypertrophic stenosis of the pylorus and idiopathic dilatation of the colon, which together barely occupy a page, and we further notice that though thymectomy is recommended in recurrent cases of thymic dyspnoea no details are given of the operation.

The book is singularly free from misprints. We are pleased to find that the writer has insisted on the correct spelling of "orthopædics" and "pædiatrics." The following false concords require correction: *veri pilosa*, *erigeron canadensis*, *megacolon congenita*, *treponema pallida*, and *ligamentum alaris*.

The work is in every way well up-to-date. Recognition of other writers is made in numerous references to the most recent literature. As a praise-worthy feature which will be appreciated by the busy practitioner, for whom the work is intended, is the insertion of summaries after the most important articles.

The text is accompanied by excellent illustrations, among which skiagrams predominate. A bibliography of the author's contributions to surgical literature is appended.

THREE LECTURES ON EPILEPSY, being the Morison Lectures delivered before the Royal College of Physicians of Edinburgh in 1910, by WILLIAM ALDREN TURNER, M.D., F.R.C.P. Edinburgh: John F. Mackenzie. Price 3s. 6d.

THE first lecture is entitled "The Problem of Epilepsy." After a short historical introduction the author proceeds to indicate that epilepsy is the clinical expression of a group of diseases which may be divided into four primary divisions: (1) Organic epilepsies; (2) early epilepsies; (3) late epilepsies; (4) idiopathic epilepsy. The two primary elements of the disease, the convulsive and the psychical, are next considered. Subsequently the pathological anatomy, predisposing causes, stigmata of degeneration, age at onset, exciting causes of epilepsy and immediate causes of epileptic seizures receive attention. The lecturer concludes this chapter by advancing evidence in support of the view that a toxæmic epilepsy exists.

The second lecture deals with "The Borderline of Epilepsy." Hysteria, epileptoid phenomena, under which term vasomotor and psychical attacks are considered, and sleep symptoms are here discussed.

"The Treatment of Epilepsy" is the title of the third lecture. The scope of the bromides, with special reference to the details of their administration, the value of other drugs, the influence of diet, notably the salt-free and purin-free dietaries, the special measures called for in attempting to arrest a fit and the treatment of the *status epilepticus* are in turn considered. The lecturer concludes by referring to the mode of life best suited to the cases of confirmed epilepsy.

These lectures will be read with interest since they refer to the most recent work on the subject, while the various problems are approached in an attractive manner.

Correspondence.

SAVING OF INFANT LIFE.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

SIR,—It was my privilege to hear on Saturday last at the inauguration of the Park Hospital, Lewisham, the sympathetic speech of the Rt. Hon. John Burns, in which he dilated on the admirable work the Metropolitan Asylums Board was doing in receiving the poor sick children of London from the workhouses and infirmaries for medical and surgical treatment. He stated: "It meant that in the first seven years the strength, capacity and fruitful potential life of the child could be either made or marred, and when they realised the susceptibility of the infant in those early years to disease, and that 234 per 1000 children passed away under five years—although that number was diminishing, he was glad to say—they also realised the risks of child life and the susceptibility to illness and permanent impairment of those who survived." On hearing these words it occurred to me that the Local Government Board, of which he is the distinguished President, is undoing with one hand what he is doing with the other by permitting the infantile population to be infected with an "acute specific disease," by which term vaccination has been described by Dr. Ballard, of the Local Government Board. The reports of the Registrar-General for England and Wales show that from 1881 to 1906 inclusive 1096 deaths were registered as due to "cow-pox and other effects of vaccination," and this in no measure expresses the full extent of the mischief; first, because they do not even profess to take account of injuries not resulting in death really caused by vaccination; secondly, because they cannot include cases of death really caused by vaccination, but not so registered, because the certifying doctor has considered the point doubtful, and has given vaccination the benefit of the doubt; and further, there is no record of those who are injured by the operation and whose vitality is lowered, rendering them more liable to take any prevailing disease. These are considerations which should influence those who have the health, happiness, and welfare of the infantile population at heart, and tend to the reduction of the fatal toll levied on infant life.

Yours, etc.,

W. L. BEURLE.

Linden House,

Victoria Park Road, N.E.

November the 25th, 1910.

[We can best answer Mr. Beurle's letter by referring him to the statistics of the last London epidemic of smallpox published by the Metropolitan Asylums Board, of which he is one of the managers. In the Annual Reports for 1901 and 1902 he will find that of the 963 smallpox patients in the first seven years of life only 47 had been vaccinated, all of whom recovered, as compared with 916 unvaccinated cases, of whom 393 died—a mortality of 42·9 per cent.—ED., BRITISH JOURNAL OF CHILDREN'S DISEASES.]

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Original Articles.

NOTES OF FOUR CASES OF HEREDITARY SYPHILIS TREATED BY EHRLICH-HATA'S "606."

By JAMES H. SEQUEIRA, M.D.Lond., F.R.C.P.Lond., F.R.C.S.Eng.,
*Physician to the Skin Department, and Lecturer on Dermatology at the London
Hospital, etc.*

THE remarkable success observed in the treatment of syphilis by Ehrlich's new specific is not confined to the acquired disease. A large number of cases of congenital syphilis have been treated in continental clinics, and I now report four treated at the London Hospital. Three of the patients were young infants, and one was a lad, aged 15 years. Of the three infants, two were treated by injecting the mothers who were suckling them, and the other was injected directly.

CASE 1.—Male child, L. L—, aged 2 weeks, was admitted to the London Hospital on October the 14th, 1910. No history could be obtained, as the mother was at home dangerously ill after her confinement. The infant was in an apparently hopeless condition, with an extensive bullous eruption on the body and extremities. The epidermis peeled off the palms and soles, and large sheets were exfoliated from the trunk. The scalp was covered with impetiginous crusts. The eyelids were acutely inflamed and œdematous. Snuffles rendered feeding very difficult. The child suffered from constant diarrhœa, and was extremely wasted. It did not seem possible that it would survive.

An injection of 0.02 grm. of "606" was injected deeply into the

right buttock on October the 14th. The injection was followed by considerable pain and swelling of the part. On October the 17th, three days after the injection, the redness of the skin had almost disappeared and the bullæ had dried up. The child was obviously better in its general condition. The next day there were a few red spots left, the diarrhœa had ceased and the child began to increase in weight.

On October the 31st the child was plump and apparently quite well. On that day, as so small a dose of the drug had been given it was decided to give a further injection, and 0.06 grm. was given subcutaneously in the right scapular region. The child's general health continued to remain good, and it is quite well to date.

The only ill-effects were local, the sites of the injections being red, swollen and tender. There was a little sloughing about the site of the first injection, which was believed to be due to the irritation of the excreta. This soon healed under simple dressings. The site of the second injection suppurated, and a few drops of sterile pus were evacuated on November the 9th. The small sinus left by the abscess healed entirely by the beginning of December.

CASE 2.—Male infant, R. H—, aged 4 weeks.

The child and the mother were admitted to the London Hospital on October the 14th, 1910.

The mother, aged 28 years, had had two healthy children, but no miscarriages. Her last child had died four years and a half ago. Two years ago she suffered from a generalised eruption, which lasted for nearly a twelvemonth. Her husband also had a rash about the same time. No history could be obtained from him, but his answers to inquiries were highly suspicious. The mother on admission to the hospital had no symptoms of syphilis, and her blood gave a negative Wassermann reaction. She was suckling her infant.

The infant was healthy at birth, but on the fourth day "blisters" appeared on the palms and soles. When admitted to the ward there was a characteristic bullous eruption on the palms and soles, and patches of erythema with scales upon the face and lower abdomen, and snuffles. The liver and spleen could not be felt. The child had had six inunctions with ung. hydrarg. before admission, one fourth of a drachm of the ointment being rubbed into the belly and covered with a flannel binder.

The mother was given an intra-muscular injection of 0.5 grm. of "606" in neutral suspension into both shoulders. There was very little pain, and a slight rise of temperature (101.6° F.) on the second day with coryza, etc., was attributed to a "cold."

The effect of the injection upon the baby was remarkable. On October the 17th, three days after, the rash had almost entirely disappeared, and the blebs had dried up. On the 21st the child was in excellent general condition, and every spot had disappeared by October the 28th. The child has remained quite well to date.

CASE 3.—Male, T. O—, aged 1 month.

The child and its mother were admitted to the London Hospital on November the 22nd, 1910.

The mother, aged 34 years, has two other living children, aged respectively 11 and 6 years. Three children have died from measles, and one from congenital syphilis. She also had one miscarriage six years ago. At the time of this miscarriage she had a skin eruption which she described as looking "like measles." She had no symptoms of syphilis on her admission, but gave a positive Wassermann reaction. She suckled her infant.

The infant developed a rash at the end of the third week after birth, but had had snuffles for at least two weeks before the eruption appeared. On admission there were bullæ on the palms and soles. There were scattered dull red spots and patches of erythema on the lower part of the trunk and on the face. There was a superficial ulcer upon the right wrist. The child was shrivelled and wasted. The spleen and liver were not obviously enlarged.

The mother was given an injection of "606" in alkaline solution into the right buttock on November the 22nd. On November the 25th, three days later, the infant's skin had greatly improved, the erythema had diminished and the bullæ were dry. The ulcer on the wrist healed in twenty-four hours. On November the 30th the child was plump and well, the snuffles had gone, and it was made an out-patient. It has remained quite well to date.

CASE 4.—Male, W. W—, aged 15 years.

This is one of the rare forms of congenital syphilis in which there is grave destruction of the nose and upper lip.

The patient's father and mother are in good health; there is no history of actual syphilitic manifestations in either. There are five other children in good health. There have been no miscarriages. The boy's history was given as follows: He had "enteric fever" when two years old; from that time he has suffered with his eyes and his vision has been getting gradually worse, and on admission he was almost blind. He breathed through his mouth, and was very deaf. Six years ago "pimples" appeared on the upper lip and gradually spread to the cheeks and nose. They broke down, and on his admission to the ward there was a large ulceration covered with

massive crusts on both cheeks, nose, and upper lip. The upper lip was much thickened. The nose was very flat at the root and discharged a great deal of rather offensive muco-pus. He had chronic interstitial keratitis of both eyes, and also some phlyctenular ulcers on the left. He had chronic middle-ear disease on both sides, with many granulations, and the internal ears were also affected.

The Wassermann reaction was completely positive.

On August the 10th he was given 0.1 grm. of "606" in neutral suspension, injected into the right shoulder. Two days later he had 0.2 grm. injected into the right buttock. Within forty-eight hours of the first injection the ulceration of the face had much improved. On August the 15th the lip was distinctly less swollen, and the boy volunteered the information that he could see better. This, however, was not confirmed by the test-types. The nasal discharge ceased, and on August the 17th he could breathe through his nose.

The improvement was maintained, but as there had been little recent progress a fresh injection of 0.2 grm. of the drug was given in the left shoulder on November the 25th. The cutaneous condition improved still more, and the contracting scar led to slight ectropion of the lower lids. The swelling of the lip diminished. By the end of November it was certain that the hearing and sight had improved. The boy could hear the normal voice, and he was able to recognise people and find his way about without difficulty. Of course, his long residence in the ward may have counted for some of this improvement.

On December the 1st the keratitis was more marked in the left eye, and there was fresh opacity in the lower part of the cornea. The next day he had another injection of 0.3 grm. into the right buttock. The scar margin became very red, and the ciliary region of the eye became injected (Herxheimer's reaction). Three days later the face had resumed its normal colour and the eyes gradually cleared.

The Wassermann reaction has remained completely positive throughout, but on quantitative examination it is gradually diminishing.

The local reactions were variable. It was only once necessary to give morphia, and that was after the last injection. There was slight pyrexia after each, but the temperature never exceeded 100° F. Vomiting occurred after the last injection.

It appears very doubtful whether much more improvement is to be expected in this case. The cutaneous and intra-nasal lesions have been healed for several months. The ocular and aural conditions have improved slightly, and the present state is more due to cicatricial changes than to actual inflammation.

The histories of these four cases show the efficacy of the new remedy. The first case is the most striking. The child certainly appeared likely to die. The eruption had involved almost the whole surface of the trunk by the second week after birth, and the skin exfoliated all over the body and limbs. The injection here was direct, and in grave cases I think this method is to be preferred to the treatment of the mother. Here we were unable to treat the mother, as she was too ill to leave her bed. The cases treated through the mother are of great theoretical interest, especially Case 2. Here the mother gave a negative Wassermann reaction throughout, although she had had undoubted syphilis two years before, and her infant was certainly syphilitic. Are we to suppose that she was able to develop sufficient antibody to be excreted in the milk, and yet gave no Wassermann reaction? Or, on the other hand, is there sufficient of the "606" excreted in the milk to cure the infant? According to some observers there is little, if any, arsenic excreted through the milk.

As to the permanency of cure, we are too early in the work yet to be dogmatic about this. It is impossible to obtain sufficient blood from young infants to test the Wassermann reaction. In the lad the reaction still remains positive, and this is said to be the case as a rule in congenital syphilitics. But of this, again, we have not sufficient experience.

I have to acknowledge my indebtedness to Dr. Bulloch for the use of "606" in these cases, to Drs. Fildes and McIntosh for the care with which they have carried out the treatment, and to my clinical assistant, Dr. Neligan, for the notes of the cases.

PYLORIC STENOSIS IN INFANCY.

By N. PERCY MARSH, M.B.Lond., M.R.C.S.,
Physician to the Liverpool Infirmary for Children.

WITH REMARKS ON THE INDICATIONS FOR OPERATIVE TREATMENT.

By KEITH W. MONSARRAT, M.B., F.R.C.S.Ed.,
Lecturer on Clinical Surgery, University of Liverpool.

PYLORIC stenosis in infancy was first described by Hirschsprung (1) in a lecture which he delivered before the German Pædiatric Society at Wiesbaden in 1887. He was quickly followed by Finkelstein and others, who communicated further observations and cases upon

this interesting condition, but it was not until ten years later when surgeons began to treat the disease that the therapeutic indications became a subject of lively controversy, a controversy which has continued up to the present day.

In 1898 Pfaundler (2) first suggested that there were two distinct types of the disease, the one a true, organic, congenital stenosis, the other a condition in which pyloric spasm is from some cause or other first induced, and that this eventually leads to hypertrophy of the organ with stricture of its lumen.

This view is the one generally held at the present day, but whether in an individual case we are dealing with the congenital or the spasmodic type can be rarely determined with certainty, except that the severity and early appearance of the symptoms and the duration of the pathologic process may suggest a suspicion of an organic basis.

The six cases upon which this note is based, of which as many as five are boys and only one a girl, show a surprising uniformity in their symptoms. The children were all apparently healthy born and with one exception were all breast fed, and they all, without apparent cause, began to vomit during the first few days or weeks of life; in one case, the only one that was bottle fed, the vomiting commenced on the second day, in the other five it commenced between the second and the fourth week. It was at first only occasional but soon became more frequent, and occurred either immediately after a feed or half an hour or so later. When the stomach had become dilated it was not unusual for two or three consecutive feeds to be retained, and then without warning for a surprising quantity to be ejected at one vomit, looking as if shot out from a pump. The vomiting resisted all the usual methods of treatment, occurred suddenly and without nausea, and, as already described, was not infrequently projectile in character. The vomited matter consisted of food mixed with mucus, was free from bile, and was often extremely acrid, due probably to the presence of hydrochloric and lactic acids.

As a result of the vomiting the next symptom, namely constipation, soon made its appearance and was present in all six cases. The number and amount of the evacuations were considerably reduced and the bowels seldom acted without aperients or enemata. In cases of severe stenosis the stools contain practically no faecal matter; they are offensive, and either dark brown or olive green in colour, not unlike meconium or green paint, or on the other hand they may be dry and lumpy and similar in appearance to small

black balls or coffee-beans. Examination of the stools reveals epithelial *débris*, intestinal secretions, altered bile and occasionally blood. As a further consequence of the vomiting the general condition of the infants soon showed progressive atrophy; the face assumed a senile appearance, the fontanelle became depressed and the eyes sunken, the skin inelastic and wrinkled and the temperature subnormal. The loss of weight is usually slow but may on occasion become exceedingly rapid.

The physical signs in all the cases were just as characteristic as the symptoms. On inspection of the abdomen it was at once noticed that the hypogastric region, owing to the emptiness of the intestines, was sunken, whilst the gastric region, from the dilatation of the stomach, was full and prominent. The dilatation was well demonstrated in one case by the X rays after a bismuth feed, and I feel that in the future repeated examination by this method will help us considerably in determining not only the extent of the stenosis, but also whether the results of the measures adopted for its relief are such as to justify the continuance of treatment by medical means alone.

The next sign, visible peristalsis, is a very important one and is rarely absent; it was present in all my cases, and if there is any difficulty in demonstrating it the wave can usually be induced by either giving the infant a feed or by gently stroking or tapping the abdominal wall in the epigastric region. The stomach then at once becomes more prominent, and peristaltic waves resembling two balls are seen to follow one another in a transverse and somewhat oblique direction from left to right across the abdominal wall. The peristalsis causes no pain, and is present during sleep as well as when the infant is awake.

The third and last sign is that of a palpable tumour in the pyloric region, which, when present, is very significant. It was distinctly felt in four of my cases as a small, hard, oval mass about the size and shape of a filbert, half an inch to an inch above, and a little to the right of the umbilicus; in some cases it can be felt best during the peristaltic movements, and for its demonstration careful and deep pressure must be made in the region indicated.

Anatomy and pathogenesis.—The necropsy reports of various authors, including Hirschsprung, Bendix, Finkelstein, Thomson, Pfaundler and others have established beyond doubt that in the infants who have succumbed to the disease there is an anatomical foundation as the cause of the symptoms. The pylorus is found as a coarse, hard, cylindrical tumour, about an inch long and an inch

in circumference, separated externally from the pyloric vestibule by a shallow groove and internally by step-like elevations. The lumen of the organ may admit only a bristle, or may be as large as a medium-sized probe, or even a lead pencil. The stomach is enlarged, and the wall, especially the muscular coat, considerably thickened; the hypertrophy of the pylorus is found chiefly to affect the circular muscular fibres.

Many theories have been suggested to explain the nature and genesis of this affection; in the first place there are those who believe there is no organic hypertrophy, that there is no increase in tissue formation, no stenosis, and that the stomach is entirely normal. Others, again, believe that the hypertrophy is organic and due to increase in tissue formation, and further, that the hypertrophy is a primary congenital condition which generates stenosis and secondary spasm. Cautley explains it as being a simple excess of new tissue due to an attempt of Nature to produce a sufficient closure of the pylorus, whilst Löbker and others assert that there is real tumour formation, leiomyoma or fibromyoma. Others believe that the hypertrophy is secondary to some disease originating *in utero* or after birth. Thomson speaks of it as being the result of primary spasm due to a nervous disturbance of the co-ordination activity of the gastric and pyloric muscles, and that this nervous inco-ordination is even produced *in utero* by the continuous absorption of liquor amnii.

Pritchard, again, considers the spasm is due to fissure, erosion or dyspepsia, whilst Knöpfelmacher and Freund have demonstrated the presence of hyperchlorhydria, which they believe to be the primary cause of the spasm.

Treatment.—It is not for some days or even longer that a positive diagnosis of pyloric stenosis can be made; at first the disturbance is supposed to be due to gastric indigestion, and the condition is treated on this supposition. When once the diagnosis of stenosis has been established our first object should be to find, if possible, a food that will agree with the infant; and as breast-milk is as a rule the best, it should, when possible, always be given, and every endeavour should be made to keep the milk secretion active. This is particularly important in cases when the vomiting is severe and in which it is advisable to abandon breast-feeding for a day or so and substitute for it sterile or albumin-water. If it is impossible to obtain the mother's milk or that of a wet-nurse, then sterile water with 6 per cent. lactose, one ounce every hour for twenty-four hours or longer, should first be given; to this peptonised or

citrated milk, beginning with a teaspoonful to each ounce, may gradually be added, and as the vomiting becomes less the quantity of milk and the intervals between the feeds may be slowly increased until the infant is taking that amount of nourishment which its weight and age demands.

Mechanical treatment.—If the vomiting is frequent, for the first few days the stomach should be thoroughly washed out with warm water night and morning, and if improvement follows—which is almost invariably the case—it should be continued at least once a day for a couple of weeks or even longer, after which time it can, as a rule, be gradually discontinued. If the infant is much exhausted and the fontanelle depressed I administer in addition continuous saline *per rectum*, and I am firmly convinced of the great benefit which results from both these methods of treatment. The gastric lavage by the removal of mucus and fermenting material tends to diminish the spasm, whilst the salines supply the body with much-needed fluid and encourage the elimination of waste products by the kidneys.

The value of both these methods is well illustrated in the case of a baby boy, aged 5 weeks, whom I saw with Dr. Seymour Davies, and in whom the vomiting had commenced when four weeks old. He was much wasted and in a collapsed condition, with sunken fontanelle. Continuous saline was at once commenced, and continued, with occasional intermissions, for some days. At the same time, as the vomiting was very frequent, all milk was stopped, and he was given sterile water in teaspoonful doses, to every six ounces of which one teaspoonful of panopepton and one teaspoonful of brandy were added. This arrested the vomiting for a time, but on its recurrence twenty-four hours later stomach lavage was commenced, and the results were so beneficial that it was continued without intermission for some weeks. The weight, which on June the 28th was only 5 lb. 15 oz., had increased by July the 9th to 6 lb. 8 oz.; on August the 4th to 8 lb. 2 oz.; and on October the 2nd to 14 lb. 1 oz.

With regard to medicinal treatment, opium or atropin, both of which have a specific relaxing effect upon the spasm, may be given in small doses, and with them an alkali, on the assumption that there is hyperacidity, may be combined with advantage. Bendix's formula consists of carbonate of magnesia 3j, tincture of opium ℥vj, and water to three and a half ounces, and of this a small teaspoonful is given after each feeding. Purgatives should be avoided.

In the opinion of some authorities, more especially in Germany,

the results of medical treatment are so highly satisfactory that an operation should practically never be undertaken, whereas in the experience of others medical methods have proved so disappointing as to make them consider that the surgeon's help should be sought at the earliest possible moment. Of the five cases of my own that have been treated medically two have recovered, two are still under treatment, but are progressing favourably, and one has died. This last was a most disappointing case, for after showing steady improvement and gaining a pound in weight in a month, it died suddenly from heart failure or from some other cause which I have been unable to determine. Of the cases still under treatment, one, also a boy, who was referred to me by Dr. J. H. Clarke, of Whitchurch, well illustrates the rapidity with which improvement is manifested in cases suitable for medical methods. He was healthy born, weighing $6\frac{1}{2}$ lb., and breast fed until a month old, when the vomiting commenced; barley-water and milk, peptonised milk, Allenbury, Neave's food, Benger and albulactin were all successively tried, and after each change of diet there was improvement in the symptoms for a few days, but the vomiting soon returned, and when seen by me on September the 26th it was very frequent, the vomited matter being sour, watery, and free from bile. The stools were dark green, scanty and infrequent, there was a well-marked peristaltic wave and the pylorus could be distinctly felt. Stomach washing was immediately commenced, and in addition he was given a small dose of opium combined with an alkali after each feed. Improvement was at once noted, the vomiting, although it did not cease entirely, became less frequent, so that in a few days he was able to digest feeds consisting of two ounces of citrated milk with an equal part of water and a teaspoonful of lactose, and at the same time the bowels began to assume a more normal colour and to be moved without the usual enema. On October the 10th he had gained six ounces, the stools were yellow, and there was an occasional vomit, but by the 25th the vomiting had entirely ceased, the stools were regular and a good colour, and the infant was reported to weigh 8 lb. 14 oz.—a gain of exactly 2 lb. in twenty-nine days.

Of ninety-one cases reported by Bendix (3), Bloch (4), Heubner (5), Hutchison (6), and Stark (7) as many as 83, or 91·2 per cent., have recovered under medical treatment, but against these there are 106 cases reported by Cantley (8), Thomson (9), Still (10), and the Great Ormond Street Children's Hospital (11), of which only 20, or 18·8 per cent., have recovered without surgical interference. It is difficult to explain the wide discrepancy between these figures, but

from those of Hutchison and the German School it is obvious that a large number of cases do make a satisfactory recovery when treated by medical methods. From a somewhat limited experience I am strongly of opinion that every case, however severe the symptoms, should first be allowed a thorough trial on the lines of treatment that I have suggested. Should such measures not be followed by improvement, which is indicated by cessation of the vomiting, improvement of the colour and character of the stools, and most important of all by a gain in weight, the services of the surgeon should be called for, and that, too, before the infant has become so weakened, collapsed and emaciated as to render any form of treatment almost, if not entirely, hopeless. Lastly I would draw especial attention to the fact that during the past few months, in addition to five of the cases upon which this note is based, I have seen two others under the care of my colleagues at the Hospital; it would therefore appear that the disease is not so uncommon as is generally supposed and that many cases must in the past have escaped recognition. It has such a well-defined symptomatology and such characteristic physical signs that its diagnosis should be an easy matter, and very few cases will in the future escape if a careful and prolonged inspection of the abdomen is made in every infant in whom an obstinate constipation and progressive loss of weight are associated with the frequent and projectile vomiting which is so characteristic of this disease.

INDICATIONS FOR SURGICAL TREATMENT.

No explanation possessing a satisfactory basis other than that of muscular hypertrophy consequent upon spasm has yet been offered for this interesting and important lesion. Whatever further investigation may show with regard to its ætiology the morbid anatomy is definitely established.

The circular fibres at the pylorus show hyperplasia; they are increased in number and are also stouter than normal. This change can be seen very clearly with the naked eye, and is so marked in many cases that it presents as a tumour when the abdomen is examined with the hand. As a result of this massive overgrowth of muscle the pyloric orifice is narrowed to minute dimensions, and apart altogether from any condition of spasm of the hypertrophied muscle, we have a mechanical obstruction to the onward passage of the stomach contents. Looking at these specimens one would suppose that even if medical measures were successful in allaying spasm

there would remain in some, at any rate, a sufficient obstruction to render the passage impermeable.

The lesion is a unique one ; we know of no morbid condition in the body dependent upon the hypertrophy of a sphincter which reaches such a degree that the hypertrophied muscle becomes a mechanical obstruction to the passage.

There is, however, one other condition met with in childhood which has some resemblance to this. The condition to which I refer is idiopathic dilatation of the colon. In some instances of the latter no other explanation of the dilatation has been forthcoming except the obstruction offered by sphincter over-action.

We are, however, more in the dark as to its ætiology and morbid anatomy than we are in regard to pyloric stenosis, and the analogy requires only a passing notice. I have already said that the examination of some specimens suggests that even if spasm is subdued the lumen of the pylorus would remain for a considerable period so narrow as to prevent the passage of sufficient food for nourishment. This deduction from the pathological anatomy is borne out by clinical observations. A large proportion of these children respond to medical measures to such an extent that it is found possible to feed them sufficiently.

On the other hand, a certain percentage do not respond sufficiently for this to be carried out, and in any given case the question can only be decided by experiment. It is agreed that the first duty on coming in contact with a case is to give sufficient trial to medical measures. Fortunately the question can usually be decided in a short time whether these measures are going to be successful or not. In many cases dieting and lavage produce a rapid change, and there is, therefore, no need for spending many days on making up one's mind whether they are going to be successful or not. The test of success is the disappearance or diminution of vomiting, but a more important test still is the day-to-day weighing of the infant. So long as weight is sustained, even though there may be no increase, I should consider perseverance with medical measures justifiable. On the other hand, if weight is lost it points to the fact that the hyperplasia is of such a degree that even with spasm allayed no sufficient amount of food can be passed through the narrowed pylorus.

How long are we to wait before settling the question ? Generally speaking, I think a period of seven to ten days is long enough to show definitely whether medical measures are going to achieve their purpose. If, however, there is no amelioration at all and progress

is still downhill, there is no reason why we should not shorten this period. I am assuming that the condition from which the infant is suffering is recognised at an early stage; an infant reduced by weeks of constant vomiting is an entirely unpromising subject for a serious surgical operation, and last-resource operations only bring surgical treatment into discredit.

It has been suggested by one writer that a period of from three to six weeks should be looked upon as the time necessary to judge whether operation should be performed or not; in my opinion this period is much too long for general application. Most surgeons would wisely decline to operate on an infant of a few weeks old who had passed through three or six weeks of unsuccessful medical treatment. The difficulty of deciding on operation has, I think, been exaggerated. There must come a period in the use of lavage and dieting when the surgeon can form an estimate as to whether things are going well or ill. Nor is there any mystery about the symptoms and signs of the affection. The vomiting and the fluctuations in weight are phenomena as to which a nurse can keep an exact record.

A case in which I was associated with Dr. Harris and Dr. Marsh will serve to illustrate the indications for operation. The child was a male, born of healthy parents, and weighed at birth 9 lb. When three weeks old he weighed 9 lb. 15 oz., having been nursed by the mother. At this time vomiting first began and assumed the characteristic type. When seen at the age of five weeks and three days the child looked ill, there was constipation, vomiting was constant, and a typical peristaltic wave could be seen crossing the epigastrium from left to right; a distinct induration could be felt just at the right of the middle line, which appeared to be a thickening of the pylorus. For the next three days lavage was carefully carried out; the child had been nursed by a wet-nurse since the age of three weeks, and this was continued. In spite of these measures he lost weight rapidly; on the third day he lost 9 oz. There being no amelioration of symptoms and the loss of weight being rapid, it was decided that an operation should be performed. This was done on September the 6th, and took the form of a posterior gastro-enterostomy. Rectal saline subsequently was administered continuously, and he was allowed three-minute feeds eight hours after the operation was completed. Vomiting ceased except for three attacks on September the 7th, which did not resemble the previous attacks, the vomited matter consisting of small quantities of brownish stained fluid. On the third day after opera-

tion he had gained 5 oz., on the eleventh day 10 oz., and at the seventh week the total gain in weight had reached 3 lb. The decision to operate in this case was based on the rapid loss of weight and the failure of medical treatment to produce any amelioration in the symptoms.

The period of trial of these measures was short, for the reason that, as I have already stated, if they are going to be successful improvement is to be looked for almost at once, and if this does not occur a delay is not only useless but prejudicial to the chances of recovery.

With regard to the type of operation for this condition a surgeon naturally chooses that which he thinks will give a good functional result and which he can perform most rapidly. The method of pyloroplasty advised by Mr. Nicholl is a well-conceived procedure, but would take considerably longer than gastro-enterostomy to one who is accustomed to the latter operation.

I have no personal experience of Nicholl's operation, but should think that the hypertrophied pylorus offers unsatisfactory material for the application of sutures. Posterior gastro-enterostomy has proved its advantages as a method of dealing with stenosis of the pylorus in general; it is a little less simple than the anterior operation, but not so much so as to outweigh its other advantages. Scudder (12) has recently recorded a series of eight cases treated by himself by this procedure which supports the claims of the operation to be looked upon as the method of choice.

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GENESIS OF HYSTERICAL STATES IN CHILDHOOD, AND
THEIR RELATION TO FEARS AND OBSESSIONS.*

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In the past the term "hysteria" has been with reprehensible looseness applied to almost any excitable nervous state or show of emotion. The depressed and inactive states have been called neurasthenia, while the term "nervous break-down" is still more vague. We have nothing to do with such imprecise classification; so let it be clear from the beginning that by *hysteria* we shall only mean "those symptoms susceptible of production by suggestion and of removal by suggestion—persuasion." (1) That is to say that hysteria is purely a product of an idea. Its mechanism is a psychological one, and it is to mental agents that we must look in order to influence it.

You may justly ask, then, in what neurasthenia (2) differs from this, and still more cogently the question may be put of psychasthenia. The former, when real, has nothing to do with suggestion, and is not even an affair of the psyche; it is a mere exhaustion of the nervous system due to bodily conditions, generally toxic or reflex, and its cure is a question of physio-pathology and is a strictly medical problem.

"Psychasthenia" is the term given by the medical psychologist Janet to a mental state which is characterised by (1) a feeling of inadequacy without, however, the real incapacity of the truly fatigued; (2) a tendency to unreasoning fear or horror of anything or everything; (3) a sentiment of strangeness or unreality of self or surroundings.

Phobias and obsessions.—These morbid feelings lead to intellectual ruminations, doubts, and besetments, often of so irrational a nature that they cause moral distress. Hence a vicious circle, an unpleasant "feeling-state" causing distressing ideas, which in turn aggravate the unpleasantness of the feelings. For example, it is from a general feeling of anxiety that is derived the notion that one may have

* Presented by invitation before the first congress of the American National Society for the Study of Exceptional Children, New York, April the 21st, 1910 ('Medical Record,' 1910).

placed in the wrong envelopes two letters, or that one may have added wrongly a column of important figures, or that an injustice to someone has been done by us. Although the patient is reasonably sure that the incident has not happened, yet he cannot dismiss the notion, which besets him and works him up to a state of distress sometimes so violent as to be mistaken for an attack of hysteria or even insanity. When the intellectual element predominates, we call this state an obsession; when the emotional factor is most evident it is called a phobia—that is, a morbid fear.

Now, these obsessions and phobias do not arise from suggestion; they arise, it is believed, from a physiological error in the working of the mechanism which determines the emotions. Of its exact nature we are at present ignorant, though many believe that the internal secretions play an important rôle; for we find strictly comparable states resulting from known perturbations of the thyroid and of the adrenal glands, the most important fabricants of internal secretions. Moreover, the remarkable exacerbations of psychasthenic symptoms at puberty, during menstruation, and at the menopause lead us to believe that the generative glands participate in the regulation of psychic functions, very likely by means of internal secretions.

A great many of these patients are labelled hystericals; and, indeed, it sometimes requires an expert to diagnose whether or not a patient's obsession or fear has arisen from a morbid idea or notion, or whether it is not merely the expression of a general emotionalism, and hence quite unamenable to psycho-therapeutics of suggestion or persuasion.(4) By this I do not mean that mental therapy is useless, for it is of the greatest service in teaching the patient to bear his state without the natural undue alarm to which his feelings conduce until their significance is realised. For instance, it is very common for such patients to believe that their feelings are unique, that they presage some terrible physical malady, or that they are the harbingers of insanity. The idea of this does not mitigate their sufferings, but when you enable them to realise their true status, they are generally able to bear their ills. The practical difficulty is that they have usually met so much unconsidered optimism stalking in authoritative guise that they find it difficult at first not to believe that they are being soothed by medical mendacity, so often has this been imposed for what is imagined their welfare in pursuance of the short-sighted policy of an immediate anodyne at all costs.(5)

Very different is the psychological mechanism of the hysterical obsession. It is typified by the following cases: After an attack of

influenza a woman, returning in a crowded car from a shopping expedition, began to feel much oppressed and in want of air. The heart, enfeebled by the influenza poison, and we know not what others taken as medicaments and aliments, ceased to respond to the call upon it for a more rapid flow of blood so that aëration could be sufficient, and a faint ensued with the psychic accompaniments of irresistible terror and dread of dissolution. Never since has this woman been able to bring herself to go alone into a car; the very idea of doing so induces the fear of fainting. She is not obsessed by the idea so long as the question of entering a car does not arise; but although she knows her conduct to be unreasonable, she cannot bring herself to act reasonably about going alone in a car.

Another case (6) is that of a clergyman who once lost his voice from laryngitis while in the pulpit preaching to a large congregation. Although the laryngitis recovered, he continued to lose his voice whenever he attempted to preach from the pulpit before a congregation. He could rehearse his sermons from the same pulpit without difficulty when the church was empty. Nor had he any difficulty with his voice when there was someone on whom he could call to preach for him if he should fail. But on such occasions he never did fail. The ordinary incident of having to preach was the creator of the extraordinary dread of failure which he used to feel.

In both these cases it is a suggested idea which determines an emotion too powerful to permit of rational conduct. Experience shows physicians enlightened in psycho-pathology that the emotions cannot be mitigated until their causal idea is removed (7).

The method of solicitude and sympathy merely reinforces the patient's belief in the validity of the idea for which sympathy is an implicit acquiescence. Still more injurious is direct medical treatment of the apparent physical disorder which results from the idea. For instance, a hysterical monoplegia, *i. e.* a paralysis of one limb induced by the patient's belief that it is disabled, should not be treated by the application of electricity or massage to that limb nor by the giving of an internal remedy which the patient is led to suppose is capable of removing such conditions. It is very bad practice, too, to pretend to perform an operation upon a patient who believes that she is inhabited by a lizard that she has swallowed (8). Sometimes, it is true, a symptom disappears through the suggestion involved in such procedures, but it does so in a small proportion of cases only. It is a pure chance, and does not touch the cause, while by ascertaining and removing the root we can generally cure permanently, as regards the present symptoms, at least.

An illustration of the method of treatment is afforded by one of my cases of traumatic neurosis (9); for this condition is merely the expression of an induced fixed idea of a disability, which is recovered from as soon as the pathogenic idea is disposed of.

After bruising his back by a fall from a car a railroad brakeman remained for six months very lame, and the sensibility of the lower limbs appeared to be lost. His tint had become sallow, and he was dyspeptic and emaciated; he was sleepless, sad, and cried much. The neurological examination reported with the case ('Medical Record,' October the 2nd, 1909) showed that there was no destruction of the nerve elements. The disability was shown by psychoanalysis to be a function of the false fixed idea, induced by the belief derived from his environment that such symptoms as he showed could, and should, follow such injuries as he had had. One sitting sufficed to begin the correction of this false notion, and he himself completed the persuasion and was able to return to work in a month, as I had predicted.

Now, the suggestibility of children is much more labile than that of such cases as I have cited, for, while they are very susceptible to suggestions, they do not usually hold them tenaciously, and are easily diverted from their loosely fixed ideas when morbid. For instance, it is, perhaps, unique for a girl so young as eleven to believe that she is utterly unable to eat, and to do so strongly enough and long enough to overcome the instinct of hunger to such an extent that she had to be removed for treatment to the hospital, where, in the Salle Pinel of the Salpêtrière, Prof. Dejerine built up her emaciated body by generous feeding, and at the same time undid the false notion she had acquired from her elder sister, who had been a patient in the same place.

Now, this form of gastropathy from a false fixed idea is common enough in pubescent girls (10). The origin of the idea is closely associated with the false shame of nubility, which is largely a product of the suggestions of prudery. The medico-sociological import of false shame is now being realised, I am glad to say, by enlightened educators, and it is high time. The obsession not to eat is only one of its numerous forms, but the principle of induction is the same in each, so I need not enlarge.

A much commoner type of hysteria in childhood is the imitative grimace and trick of manner which a child is suggested to do sometimes almost unconsciously. Thus, a choreic child may infect with one or other of his movements half the children in the schoolroom, and in some of the cases these movements may persist for a con-

siderable time, and may even lead a doctor unskilled in neurological signs to believe that a child has the organic disease known as Sydenham's chorea. Nowadays we have a clear understanding of the differentia between a morbid movement arising from a perturbed nervous system and that type of morbid movement which is a function merely of idea (11). The latter we term "psychogenic."

I have chosen two conspicuous types to illustrate the genesis of hysterical ideas in order to illustrate the mechanism strikingly, but far commoner are the eventualities exhibited every day in the nursery and schoolroom. What is more familiar than the constant suggestion to a boy that he should not cry when hurt, and that he should fight with his fists when attacked? That this is not innate is shown by the repugnance of the Teutonic peoples to fistic encounters. Because it was not realised that the distaste for fistic encounters was not a mark of cowardice, but arose purely from a social suggestion of its unseemliness, the Boers, before the war with the British, were supposed to be cowards. A boy having this repugnance to personal encounter might very quickly become obsessed by the fear of its need if sent into an environment where fighting was often required.

We must now pass to consideration of induced morbid fears in children. They are, alas! very common. I need not enlarge upon the familiar fear of the dark too often induced by nursemaids' tales of bogies and ghosts. The fear of the policeman is inconsiderately used by the mothers of the poor who are too lazy, ignorant, or tired to understand or control their children. No morbid effect usually proceeds from these, because the idea is not often implanted with enough insistence or dramatic power, but when the impression is powerful, or when the child is unduly susceptible, a suggestion—fear psychosis—is established with great facility.

It must be remembered that explicit utterance is not essential for the conveyance of ideas, for in the child a vague general notion is quite as effective for producing emotion as is a clear-cut concept. Thus, in Henry James's novel, 'What Maisie Knew,' the whole suggestion conveyed by the governess to her two charges was implicit in her general attitude, for until the end there was not one explicit statement of her fear. Now, the explanation of this is very simple; it depends upon the fact that gesture precedes speech as a vehicle of thought. The infant comprehends the varying attitudes and vocal tones of its mother long before it can distinguish different words, and in most people this channel of information remains an important mode, by which they are influenced, often quite uncon-

sciously. Those of us who have studied the psychology of crowds are well aware of this, as likewise are the observers who compare nation with nation as regards gestural expression. Even adults of the same race, except the more cultivated, are swayed by a comedian much more through his gestures and intonation than by his actual utterance. So with an orator or debater, or, indeed, anyone who tries to persuade us even to purchase something from them, our foolish minds are guided by the stress of an intonation, the cut of the hair, the character of the clothing, the glance of the eye far more than by the arguments used or the words uttered, and with children this is far more so (12).

If I say to a small boy that a bear will eat him up, the effect upon his emotions entirely differs whether I make the remark with portentous gravity and horror, or whether I say it with bubbling joviality, as evidently a huge joke. In the first eventuality, the boy will rush to my side in terror and try to be saved from the bear; and a phobia is in course of construction; with the latter procedure the boy will laugh consumedly, and it would not take much to make him enter the cage and strike the bear. But even when terrified, a child feels a refuge in the protection of his elders during the day when they are rarely absent.

Night-terrors.—At night, however, the child is alone, and his little consciousness cannot find the easy support of others. Before the kaleidoscope of his dreams pass the various images and accompanying emotions of his waking life, so that if any of these images has become linked with fear, it is certain to bring with it terror, as it surges into dream in the night, and the child jumps up, awakened, in panic, finding no one near him upon whom to lean.

It should not be difficult to see that these night-terrors are the product of a suggestion while awake, implicit or explicit. It should not be difficult for those who are forewarned to prevent morbid fears of this type (13). I may cite the case of a Southern lady who could never enter a dark place without feeling an indescribable horror. No hereditary psychopathy could be invoked to explain her dread, for none of her three daughters had the least fear of the dark, and, indeed, they used to be sent by their school fellows into dark and eerie places without experiencing the least trepidation. The difference was that, as children, they were protected by their mother from the tales of the plantation negroes, who knew that dismissal would follow transgression of the prohibition.

The formation of a night-terror was nipped in the bud in the case of my own boy, then aged $3\frac{3}{4}$ years. I shall try to explain the

method. For several weeks he had been visiting the zoological garden every afternoon, in the company of a French maid of exceptionally forceful character, and apparently free from the superstitiousness of the average nurse. For a long time all went well, until one evening the boy began to cry in bed soon after he was left for the night. At this unusual occurrence I mounted the stairs and inquired the cause of the boy's trouble. He said there were lions in the house, and that he did not want to stay alone, as he was afraid they would eat him. The source of the idea had been that the lions had roared more loudly than usual on that particular afternoon, and he had been much impressed, standing for some time quite motionless before the cage, though unterrified. I soon convinced the boy that the lions had to remain in their cages, and could not get out, hence there were none in the house, so that there was no occasion for fear. Of course, it was first necessary to give him the feeling of security gained by embracing me, and, secondly, to begin the conversation by talking of something else—I have forgotten what. In this way the state of terror was dismissed, and the feeling of protection was induced before we returned to the subject of the lions; then we made rather a joke of the funny roaring of the lions before we had finished, and he finally lay down with solemn purpose to go to sleep and think, as I suggested, of the tramcars and motors passing outside his open window. It was all a very simple substitution, but it was the prevention of what might have become a serious fear-psychosis if injudiciously handled.

A fertile source of hysterical states, of obsessions and phobias, and of "anxiety neurosis," as he has termed it, is attributed by Freud, of Vienna, to sexual results occurring in early childhood. To the universality with which some of Freud's too ardent followers in America ascribe this cause to every psychoneurotic condition, I desire to invoke a sceptical attitude until such time as the genesis of psychoneurosis in children has been more widely investigated by judiciously minded observers who are not wedded to an exclusive theory. It is to pædiatrists and psychologically trained educators of the abnormal child that we must perhaps look for a large part of the data needed to decide what are the more common mechanisms concerned.

From the cases I have cited, and their discussion, I hope I have made clear one of the aspects of hysteria, and that you will comprehend the rôle of ideas induced by suggestion as producers of hysterical obsessions and phobias. The thoughtful hearer, too, will deduce from our facts the means of prevention and cure of such

induced suggestion-psychoses as we have discussed. He will further perceive the importance of these psychological mechanisms as factors in the production of many a case of what is believed to be an abnormal child; and a knowledge of the principles we have discussed may enable him to displace that child from one of the categories of abnormality as laid down by Groszmann, Decroley, and others, and to replace what seemed a morbid child among those who are happy and normally useful, so that the little one may cease to be numbered among those who are called "exceptional children."

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SUBCUTANEOUS EMPHYSEMA IN A NEW-BORN INFANT.

By HERBERT WILKINS, L.R.C.S.I.

A PRIMIPARA, aged 33 years, after a prolonged labour in which delivery was effected by axis traction forceps, gave birth to a male child on September the 22nd, 1910. Although the heart was working well, artificial respiration had to be employed for about twenty minutes as the infant at first refused to breathe, and a large quantity of liquor amnii was expressed from the mouth and nose. The following day acute cedema developed over the head, thorax,

and scrotum. The bowels and urine were normal. On September the 26th the child, which had been crying lustily for the last twenty-four hours, suddenly became silent. The œdema was now being rapidly replaced by subcutaneous emphysema over the front and back of the head and thorax. The child could swallow well, but had complete aphonia. The breathing was slightly stridulous. There was no cough. Hot fomentations were applied to the neck, the nostrils and naso-pharynx were sprayed with normal saline, and 3-minim doses of vin. ipecac. were given two-hourly. At midnight the emphysema had increased, and there was considerable dyspnœa. Râles and rhonchi were heard over both lungs, the respirations were 48, and the pulse was feeble. The infant was listless and showed no desire for food. Surgical advice was now considered necessary. Mr. Herbert Waterhouse, however, who saw the case in consultation with Dr. Quiller and myself thought no good could be derived from tracheotomy. Hot fomentations were then applied to the chest and back and 20 minims of brandy were given every hour, together with vin. ipecac. and syrup of tolu and squills. The following day, September the 29th, the child was better generally, and took its food well. The emphysema was less on October the 1st, the child could cry loudly and the emphysema had almost gone. Subsequent recovery was uneventful. The origin of the emphysema in this case is obscure as the child showed no lesion to explain it.

[A somewhat similar case is recorded by Kirchgessner (*Munch. med. Wochenschr.*, 1904, p. 455) in an infant who had been delivered by version after ineffectual attempts to replace the prolapsed cord. The child was deeply asphyxiated at birth but recovered after ten minutes' artificial respiration. Subcutaneous emphysema appeared directly after birth on the left side of the chest, and during the next two days spread over the front and back of the chest and neck. On the sixth day the emphysema gradually receded and on the tenth day had completely disappeared. As in the present case, no damage had been done to the clavicle or ribs. Kirchgessner attributed the condition to an extension *via* the anterior mediastinum from an interstitial emphysema of the lungs produced by intra-uterine expiration during delivery.—ED., BRITISH JOURNAL OF CHILDREN'S DISEASES.]

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THE ROYAL SOCIETY OF MEDICINE—CLINICAL SECTION.

December the 9th, 1910.

A Case of Infantilism.—Dr. H. E. SYMES THOMPSON showed a woman, aged 34 years, height 3 ft. 2½ in., weight 3 st. Nothing abnormal was noticed until she was between three and four years old, when she ceased to grow. She learnt to write, sew, and knit, but not to read. She was babyish in her ways and fond of dolls. The circumference of the head was 20½ in. The mamæ were undeveloped, and there was no pubic nor axillary hair. Skiagrams showed that the epiphyses of the long bones were not joined to the shafts and that the ossa innominata were incomplete. The case was apparently one of primary infantilism or ateleiosis (Hastings Gilford).

Henoch's Purpura.—Dr. W. ESSEX WYNTER showed two cases. (1) Girl, aged 11 years, admitted on September the 26th. No other illnesses beyond rheumatism at four years. There had been abdominal pain for a week, independent of food, and for four days pain, swelling, and stiffness in the left wrist. Purpuric spots appeared on the leg at the commencement of the illness, and then extended to all the limbs. On admission there was pain in the epigastric and umbilical regions and some general abdominal tenderness. All the organs appeared normal. On September the 27th she vomited, some blood being present in the vomit. On October the 1st and 4th there was considerable intestinal hæmorrhage. On the 15th a fresh crop of purpuric spots appeared on the right foot. On the 28th, four days after getting up, fresh purpuric spots appeared, and the next day there was blood and albumin in the urine (12 grm. per litre). Microscopically blood-corpuscles were seen but no tube-casts. No globulin was present and no œdema.

(2) Boy, aged 13 years, admitted on October the 19th. He had had a similar illness two years before. Five days before admission pains were felt in the legs and purpuric spots appeared. On admission he complained of abdominal pain and there was a purpuric eruption on the legs and feet; the ankles swelled. All the organs were normal. On November the 7th, ten days after getting up, there was a fresh purpuric eruption on the right leg and left elbow. The next day blood and albumin were found in the urine. Corpuscles and blood-casts were seen in the deposit, but no epithelial casts. There was no œdema. Several attacks of vomiting occurred. On the 24th there was intestinal hæmorrhage. The blood-casts showed 19,000 leucocytes; 4,800,000 red cells; 65 per cent. hæmoglobin.

Trunk Lesion of the Fifth and Sixth Cervical Nerves; Keloid Development in Scars.—Mr. L. MCGAVIN showed a boy, aged 6 years, who, as the result of being run over by a cart, acquired a wound of the face and fractured his left clavicle. The wounds were cleaned up and dressed, and the clavicle put into position. There was paralysis of all the nerves of the arm except the ulnar. This was at first attributed to effused blood, but as the condition did not clear up the clavicle was exposed, and its outer end was found to be depressed and producing pressure. The fractured ends were

then wired, and the paralysis was now apparently clearing up. Six months later every scar had become keloid.

Splenectomy for Splenic Anæmia.—Dr. G. A. SUTHERLAND and Mr. F. F. BURGHARD showed two cases: (1) Girl, aged 12 years, whose sister had died at thirteen of splenic anæmia. The spleen measured 8 in. in its longest diameter, the skin was pale yellow and the blood showed typical changes. In spite of three months' medical treatment the condition became worse and splenectomy was performed. Three days after the operation the red cells had increased from 2,500,000 to 4,700,000 and the hæmoglobin from 40 per cent. to 76 per cent. The improvement was maintained and the outward signs of anæmia completely disappeared. At the present time, four years after the operation, she was a well-grown girl of seventeen, and although mitral stenosis was present, in service as a housemaid.

(2) Girl, aged 6 years, with typical signs of splenic anæmia. Epistaxis occurred once, but there was no purpuric tendency. Von Pirquet's test and Wassermann's reaction were negative. After six months' medical treatment splenectomy was performed. The spleen measured 6 in. in its longest diameter, was one pound in weight, and showed no marked changes beyond a general hyperplasia. Four days after the operation the red cells had increased by 2,200,000 and the hæmoglobin by 22 per cent. A month later there was an additional gain of 1,500,000 red cells and 20 per cent. of hæmoglobin.

CLINICAL SOCIETY OF MANCHESTER.

December the 20th, 1910.

Mr. J. HOWSON RAY, *President, in the Chair.*

Affections of the Hip-joint.—Mr. J. HOWSON RAY showed a series of cases, including congenital dislocation of the hip treated by manipulation, and one untreated case of this condition. Cases of coxa vara and coxa valga were also shown, and the gait peculiar to each condition was demonstrated, as well as the main points in the differential diagnosis of congenital dislocation of the hip, of coxa vara and coxa valga, and of certain forms of tuberculous disease of this joint. One case of tuberculous disease of the great trochanter of the femur was exhibited, as well as one of advanced tubercle of the hip-joint where the "wandering acetabulum" was well marked. All the cases of hip-joint affection were accompanied by X-ray photographs in which the condition of the bones and of the joint surfaces in the above cases was confirmatory of the clinical diagnosis.

Complete Cleft Palate and Hare-lip.—Mr. J. HOWSON RAY also showed a child, aged 3 years, on whom he had operated recently. The functional result was very satisfactory, the soft palate moving freely in oral respiration and in phonation, whilst the speech was of fair grade and easily understood.

Mastoid Abscess with Thrombosis of Lateral Sinus and Latent Cerebellar Abscess.—Mr. P. R. WRIGLEY.—When first seen, the patient, a girl, aged 14 years, was delirious, presenting signs of meningitis, and a

history was obtained of discharge of some duration from the left ear followed by cessation a few days ago with appearance of the acute symptoms. Operation was at once performed on December 10th, 1909, when the mastoid was found to be filled with pus and the lateral sinus thrombosed. The antrum was cleared out, the jugular vein divided in the neck, the upper end drained, and the lateral sinus cleared out. This was followed by a rapid recovery, but during the next eight weeks there occurred symptoms of cerebral abscess, viz. headache, vomiting, and optic neuritis, but no localising sign appeared until February the 10th, 1910, exactly two months after the first operation, when paralysis of the left external rectus suddenly developed. The same day the left lobe of the cerebellum was exposed and an abscess cavity containing two ounces of pus discovered. This was drained and recovery rapidly ensued. She was now perfectly well, though there was still very slight paresis of the left external rectus.

Periosteal Sarcoma.—Mr. WRIGLEY also showed a girl, aged 15 years, with a tumour of the left frontal bone of five months' duration. When first seen one month before the growth was the size of a walnut and appeared to spring from the frontal bone just above the middle of the supra-orbital margin, beyond which it had spread a short distance on the roof of the orbit, involving a portion of the third nerve, producing slight ptosis. Operation was declined and was not urged. A month later the growth had almost doubled in size, the skin over it was stretched and appeared about to ulcerate.

Congenital Dislocation of the Hip-joint.—Mr. H. H. RAYNER showed two cases, both in female children, illustrating stages in the treatment by Lorenz's method. One child, with double dislocation, was shown after reduction and the application of the first plaster casing, with the thighs fixed in a position of extreme abduction and rectangular flexion. The other child showed a later stage of treatment, the thigh being fixed in a position of slight flexion and abduction; the patient was able to walk a little with crutches. Skiagrams of the hip-joints before and after reduction and fixation were shown.

Intention Tremor.—Dr. CHRISTOPHER HEYWOOD showed a case in a boy, aged 12 years. The tremor affected the right hand only and had been present for four years. The lad had frequent headaches but no cerebral vomiting, and the optic discs were normal. The case was probably one of functional disease.

Muscular Rigidity.—Dr. HEYWOOD also showed a case in a baby aged 18 months. This child was, according to the history given, born in a state of general rigidity. When first seen by Dr. Heywood at the age of two months the position of the limbs closely resembled that found in tetany. The rigidity had been slowly diminishing, and at present was more marked on the right side; the steady continuance of improvement seemed to justify a hope of nearly, if not quite, complete recovery. The cerebral lesion producing this condition was probably due to pre-natal causes.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

November the 9th, 1910.

Notes on Six Cases of Posterior Basic Meningitis.—Dr. E. C. WILLIAMS.—All the cases were treated by lumbar puncture, in two cases by lumbar puncture alone, and in four cases by lumbar puncture combined with intra-spinal injections of Ruppel's serum. The two cases treated by lumbar puncture alone both recovered, but one, after suffering from fleeting amaurosis, was an idiot. The percentage of recoveries is about 33, but many recover with some permanent defect. Lumbar puncture was of value both from a diagnostic and therapeutical standpoint. Of the four cases treated by intra-spinal injections of Ruppel's serum in addition to lumbar puncture, three recovered completely and one died. The results of the microscopical examination of the fluid from lumbar puncture must be taken in conjunction with the established clinical signs. In two cases diplococci were found, in one case undoubtedly the *Diplococcus intra-cellularis*; in three cases the fluid was turbid and contained cellular elements, chiefly polymorphs. In the fatal case there was a deposit of purulent lymph at the base of the brain, but in another case where the symptoms were very marked, with opisthotonos, the fluid was quite clear. Whatever the method of treatment adopted, whether lumbar puncture alone to relieve tension and possibly remove toxins, or lumbar puncture combined with injection of a serum, the earliest and most reliable guide as to the efficacy of treatment is the weight; so long as there is an increase in weight, however small, or even if there be a diminution in the loss registered at each weighing, the prognosis is more hopeful. Loss of weight in this disease is far greater than can be accounted for by the vomiting, and is evidence of an increasing toxæmia. The quantity of fluid drawn off at lumbar puncture bears no relation to the severity of the disease. The quantity of serum injected varies from $1\frac{1}{2}$ –5 c.c. The frequency of lumbar puncture must be determined by the special requirements of each case. Several sera are on the market, prepared by Flexner, Jochman, Ruppel, etc. The injection of the serum from convalescents has also been practised. The diplococcus is probably identical with the diplococcus of cerebro-spinal meningitis, is usually Gram-negative, but has been found Gram-positive, as in one of Dr. E. C. Williams's cases. The complete recovery of three cases out of four seems to point to the efficacy of serum treatment.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

November the 11th, 1910.

Partial Paralysis of the Right Shoulder Muscles, including the Serratus Magnus, of some four months' duration.—Dr. F. F. TREVELYAN showed the case in a girl, aged 3 years. A similar paralysis, but not so marked, had recently developed on the other side. Between the onsets of the paralysis in the two arms a slight but definite prominence had been noticed in the lower cervical and upper dorsal regions of the spine.

Acute Intussusception of the Ileo-ileo Colic Variety.—Mr. H. COLLINSON showed a specimen of this. A child aged 2 years was admitted with three days' history of obstruction. The intussusception was irreducible and was resected; Paul's tubes were fixed into the ileum and ascending colon. Eight days later the openings were closed and a lateral anastomosis performed between the ileum and transverse colon. The child recovered.

Acute Pneumonic Tuberculosis of the Left Lung.—Dr. G. W. WATSON showed a specimen from a girl, aged 16 years, who had enjoyed moderately good health up to the onset of her fatal illness. She had complained of no pulmonary symptoms, but was fragile and anæmic. The illness developed acutely with fever, rapid breathing and cough with very little sputum. The physical signs were those of lobar pneumonia. Death occurred on the twelfth day, apparently from cardiac failure. Post-mortem examination revealed marked enlargement and caseation of the bronchial glands. Opening into the commencement of the left bronchus was a small sinus filled with caseous material, communicating with a caseous gland adjacent to the bronchus. The left lung was solid and in a state of reddish grey-hepatisation. There was no old tuberculous focus in either lung, but in both organs there were a few small white areas looking like small aggregations of tubercle. Microscopic examination revealed the tuberculous nature of the acute process.

Interstitial Keratitis.—Mr. A. L. WHITEHEAD showed two cases. (1) Male, aged 15 years, with bilateral interstitial opacity of both corneæ, without iritis, of two months' duration. For six weeks the knee-joints had been swollen, without causing pain or interfering with locomotion. No other evidence of congenital syphilis was present. (2) Female, aged 10 years. Right interstitial opacity of the cornea, without iritis, of three weeks' duration. On examination both knee-joints were found to contain fluid. The duration of this was uncertain, since it had caused no discomfort and was unknown to the patient. With the exception of a slight scar at one angle of the mouth there was no other sign of congenital syphilis.

Philadelphia Pediatric Society.

MEETING, December the 13th, 1910, CHARLES A. FIFE, M.D., President.

Volkmann's Ischæmic Paralysis.—Dr. J. T. RUGH showed a child aged 6 years, who had suffered a fracture of the lower third of the left humerus three and a half years ago. It was dressed on an anterior angular splint, which had to be changed at the end of a week, because of ulceration in the flexure of the elbow, when an internal angular splint was applied. In two days marked ulceration of the flexor surface of the forearm occurred, which required over two months for healing. The fracture united firmly, but flexor contraction of the fingers and hand took place, and the skin of the hand broke down upon the slightest pressure. Six months later Dr. Rugh uncovered the median nerve in front of the elbow for two inches and freed it from adhesions. At this time he had constructed a brace somewhat after the plan suggested by Robert Jones, of Liverpool, but added an arm-piece to the hand portion and a Strohmeyer screw underneath to assist in straightening. This could not be kept on because of the tendency to break

down, and nothing was done until this autumn. In September the splint was systematically applied for half an hour twice daily, increasing up to four hours at the present time. There had been no breaking of the skin, and the hand was almost straight with the forearm. Recovery would occur in this case if the treatment was continued persistently.

Dr. J. K. YOUNG said he was much interested in this subject, having recently at the Academy of Surgery recommended the Jones method of treatment either before or after the operation. Many cases of ischaemia were relieved by extending the fingers first and fixing the wrist, and, after this had been accomplished, extending the wrist upon the arm.

Arthritis Deformans in Children.—Dr. ELEANOR C. JONES reported a case of arthritis deformans, of Still's type, the disease beginning at the age of eight years. Infection appeared to have followed sore throat attended with enlarged cervical glands. The patient was exhibited, very much undersized and undeveloped for her age. Nearly all the joints were affected. None were painful, red, or tender. All the muscles of the back, chest, and shoulders were markedly atrophied, as were those of her arms, hands, and legs. X-ray plates showed the changes to be peri-articular. The spleen was not enlarged; inguinal, epitrochlear and axillary glands were somewhat enlarged. She had had an intermittent temperature from June to November, 1910. Her general condition had been improved by general hygienic and tonic treatment; she had gained nine pounds in the last four months. Tenotomy had been advised for the contractures. Arthritis deformans was rather rare in children. In the form described by Still in 1896 the changes were most marked in the synovial membranes and peri-articular tissues. After discussing the various theories formed to explain this disease, Dr. Jones concluded that the nervous and arthritic phenomena were the end-results of some poison or poisons which had a special action upon these structures.

Dr. YOUNG said that he was much interested in this case. He had recently gone over the subject thoroughly and divided these cases into four groups—traumatic, pathological, pathogenic, and the metabolic or toxic cases. Some of these cases were curable, such as one of his, in which the cause was pseudo-diphtheria bacilli lodged in a discharge from one ear. Recovery followed treating the ear. He has reported another case which recovered, in which the arthritis complicated kidney disease. The bony and articular changes occurred late in the disease, the peri-articular changes occurring earlier. Whenever the cause could be discovered early and removed, these cases could be cured.

Dr. RUGH referred to a case in which the process began at twenty-two months of age. It was neuropathic in type. Treatment did not stop the progress of the disease. He administered tincture of iodine, well diluted, increased up to the point of tolerance in these cases, with good results. In many cases it relieved the joint symptoms better than any other remedy he had tried.

Dr. D. J. MILTON MILLER showed the photograph of a child aged 9 years, with rheumatoid arthritis. The infectious origin appealed to him, since those cases began acutely, with enlarged glands, liver and spleen in the Still type. He believed rheumatoid arthritis, or chronic infectious arthritis (a much better term), was a different disease in children from that seen in adults; at least, only the hypertrophic stage was seen—the atrophic stage was never reached. Children, especially in the Still type, seemed to recover

in spite of Still's poor prognosis. One never saw adult cases that began in childhood, nor had Dr. Miller ever met with one in his reading; hence he concluded that juvenile cases must recover. He had recently seen a case of ten months' standing, in a boy, aged 20 years, following an ankle-joint injury, in which remarkable improvement had occurred. He advised rest during the acute stage, and later, massage, hot baths, electricity and active movements. Especially must the patient be encouraged to move and work the affected limbs himself.

Dr. EMERY MARVEL suggested that the deformity resulting might be prevented by Murphy's method of introducing formalin or turpentine to cause phagocytosis.

Dr. T. A. O'HARA referred to an old woman over sixty, who had had arthritis deformans for years, but seemed to get along fairly well. She fell recently, and since that time all of her joint symptoms have grown much worse.

Dr. J. H. McKEE said that this was the first of Still's type that he had seen. He also referred to an older case of arthritis deformans, who had been kept in fairly good condition by means of X-ray and static electricity.

The Diagnostic Value of a Blood Examination in Pertussis.—Dr. JOHN A. KOLMER, by invitation, read this paper, pointing out the high mortality of pertussis during the first three years of life, and emphasising the necessity of prophylaxis by early diagnosis and isolation. He reported blood examinations in forty-three cases of coughing. Six of these cases were examined late in the course of pertussis. Of the other thirty-seven cases in which a clinical diagnosis could not be made, thirteen were diagnosed positive, and of these, eleven developed clinical symptoms of the disease. Eighteen were given a negative diagnosis, but three of them developed pertussis clinically. Six were held as suspicious, and two of these developed the disease. Of all the cases which turned out to be whooping-cough, 81.25 per cent. had been diagnosed correctly by the blood examination. All were suffering with scarlet fever also, most of them being convalescent. In the presence of other infections which in themselves were apt to disturb the blood-formula, it was better to be guided by the total number of leucocytic elements in a cubic millimetre of blood rather than by the percentages.

Dr. S. S. WOODY said that where many children were kept in one ward any means of promptly discovering whooping-cough was of great value. Dr. Kolmer's work had resulted in a routine blood examination at the Philadelphia Hospital for contagious diseases whenever any child was heard to cough suspiciously, especially in the scarlet fever wards. It facilitated an early decision, and could be of great value when taken in addition to the other symptoms.

Dr. J. CLAXTON GITTINGS said that in hospital practice patients with pertussis were most apt to be admitted for a coincident pneumonia or tubercular infection. The history in these cases was sometimes wilfully withheld, or the desperate condition of the child strongly impressed the resident to the exclusion of a careful anamnesis. The presence of a leucocytosis with an increase of the mononuclear cells was of distinct aid in the diagnosis of such cases. In broncho-pneumonia the increase of leucocytosis was usually of the polynuclear type, while tuberculosis often failed to produce any marked increase in the white cells. While the blood-pictures should not be considered as a final and definite proof of the existence of pertussis, yet it helped to a conclusion in cases which caused real "diagnostic anxiety."

Dr. KOLMER referred to two fatal cases of pneumonia, which complicated pertussis, in which he made the autopsy. Before death the number of leucocytes and small lymphocytes rose in the case of broncho-pneumonia, while the small lymphocytes decreased before death in the child with lobar pneumonia.

Congenital Cystic Degeneration of the Kidney.—Dr. H. BROOKER MILLS reported the case of a child aged 14 months, admitted to the Medico-Chirurgical Hospital with an enormous growth on the left side of the abdomen, which the mother had noticed seven months before. This had greatly increased in size during the seven months. Blood examination showed 4,600,000 red and 17,600 white blood-corpuscles, with 70 per cent. hæmoglobin. The X rays only showed that the growth was not an enlarged spleen. Dr. W. L. Rodman operated upon the baby, removing the growth, which was found to show congenital cystic degeneration of the kidney. The child left the hospital in good condition, but had died since.

Dr. J. STEWART RODMAN said that polycystic disease of the kidney was comparatively rare, only about 300 cases being found in the literature. Only 10 per cent. of these cases were unilateral. The condition existed in two forms, the congenital, and that found in adults past middle life. The entire kidney was involved, sometimes weighing sixteen pounds. The cyst contents varied from a thin watery fluid to a thick grumous, even bloody one. The most probable explanation seemed to be that of Shattuck, who believed that the mesonephron fused with the metanephros, the proper kidney-tissue growing into the Wolffian body, while remnants of the latter became the seat of the cysts scattered through the renal tissue. Polycystic kidneys might occur with other malformations. According to Osler, bilateral tumours in the renal region, hæmaturia, accompanied by such signs of chronic interstitial nephritis as muddy skin, arterio-sclerosis, cardiac hypertrophy, abundant urine of low specific gravity, with abundant albumin and casts, should strongly point to this condition. The only treatment is nephrectomy when the condition is unilateral. Of thirty-five operated on, twenty-five recovered, but few were cured.

Dr. S. C. BURNS said that benign tumours of the kidney were rare; while malignant growths were uncommon, they were more frequently found in children than in adults. Dr. Burns gave the details of Dr. Rodman's operation upon this case.

Dr. BORDEN S. VEEDER added that cystic kidney following inflammatory lesions might be confused with congenital cystic kidney. But the contents found differed, as mucoid and colloid cysts might be found near each other in the congenital form. The unilateral cases with this condition were very rare. He mentioned two cases in which the condition was diagnosed as cysts of the kidney, but in neither was any cyst found.

Typhoid Infection involving only the Gall-bladder.—Dr. WALTER G. ELMER reported the case of a girl, aged 16 years, who developed cholecystitis with a temperature of 103° F. or a little above, with marked daily remissions. The gall-bladder was distended, painful, and very tender, and easily palpable. The patient could not turn on the right side because of the increased pain. The usual clinical symptoms of typhoid fever were absent. At the end of one week the gall-bladder began draining, distention and tenderness disappeared, the temperature fell to normal, and except for a slight rise on the following day remained absolutely normal throughout. The

Widal test was negative just before the gall-bladder drained and positive the next day. Three rose spots appeared on the abdomen the day the temperature fell to normal. Eleven other patients had been infected with typhoid fever from the same milk supply. Apparently the patient resisted the infection except in her gall-bladder, which probably became the seat of a mixed infection by the colon bacillus and typhoid bacilli. The cystic duct was blocked and drainage prevented. There was sufficient systemic reaction to cause rose spots and a positive Widal. The rapid convalescence and absolutely normal temperature would lead one to conclude that there were no sloughing intestinal ulcers or extensive involvement of the mesenteric glands or lymphatic system generally. She was well in a very short time. The case was interesting because of the difficulty in making the diagnosis and the possibility of surgical intervention.

Dr. MARVEL asked whether it could not have been a simple cholecystitis.

Dr. HARRY LOWENBERG asked whether a blood-count had been made.

Dr. ELMER said that the leucocyte count was 7000. This child had had infected milk, and eleven other cases had been due to it. No blood-cultures were made. The patient had never had typhoid fever before this illness.

Société de Pédiatrie, Paris.

November the 15th, 1910 (Bulletin No. 8).

Dwarfism of Senile Type.—MM. VARIOT and PIRONNEAU, who showed a remarkable case at the previous meeting, read the notes of two other cases—(1) that of Hutchinson, 'Trans. Med.-Chir. Soc.,' 1896, and (2) that of Gilford, 'Practitioner,' 1904. The three cases had a striking resemblance, and Gilford had sought for a new designation to differentiate them from other forms of dwarfism. He proposed first the name "micromegaly," thinking that changes in the hypophysis, the recognised cause of acromegaly, would be capable of exciting in the same organism both an arrest of development at certain points and an acceleration at others. These disturbances could even attack two segments of the same system, and thus was explained the slenderness of the diaphyses and the enlargement of the epiphyses, which the term "micromegaly" emphasised. Latterly Gilford gave up this name and substituted that of "progeria" (πρόγρησις, prematurely old). The authors were at variance with the opinion of Gilford on the pathology of this morbid type, for it was difficult to admit that changes in the same gland could in the same organism excite inverse disturbances in the segments of a single limb, and they objected to the term "progeria" as indicating one only of the clinical characteristics of this dystrophy and as not specifying the dwarfism. They proposed the term "dwarfism of senile type" (*nanisme type sénile*), which brought out the two essential characteristics of this morbid condition. In addition to the clinical appearance of senility, it was evident from the autopsy made on Gilford's case that the lesions observed were markedly similar to those met with in old people, particularly the lesions of the vascular system; on the other hand, the arrest of development resulting from these early lesions of the arterial system could only be specified by the term *dwarfism*. The

explanation of this morbid type must without doubt be sought for in the system of glands with internal secretion, and first of all the hypertrophy of the thymus noticed at the autopsy of Gilford's case attracted attention. There were numerous observations where this change had been associated with marked disturbances of ossification. On the other hand, the histological examination in this single case was too incomplete to enable one to assert that the functional activity of this foetal organ persisted in an abnormal degree. They considered that the question of the thyroid might be eliminated: the acceleration of ossification, the development of the faculties and the condition of the subcutaneous tissue were at variance with the disturbances noticed in hypothyroidism, while the clinical aspect had nothing in common with the dwarfism observed in myxœdema. The hypophysis in Gilford's case, being normal in size and of healthy appearance, could not be taken into account, and the presence of spermatozoa in his case added to the difficulty of admitting a testicular or ovarian influence in subjects of three years of age. The most prominent fact brought out by the autopsy in Gilford's case was the marked atheroma in the heart and aorta: half the anterior flap of the mitral, the posterior rendered incompetent, the base of the aortic valves covered with calcareous excrescences almost completely surrounding the orifice, a calcareous plate of 23 mm. continuous with that of the anterior mitral flap, the coronary orifices of stony hardness, and finally atheromatous patches scattered over the aortic arch as far as the left subclavian, all these profound changes at the root of the arterial system taken in conjunction with the sclerosis noticed in all the organs were more than sufficient to explain the general and precocious senility. They might also explain the dwarfism by the disturbance caused in the vascularisation of the tissues and consequently in their development. In recent years atheroma had been attributed to hyperplasia of the adrenals. The authors had been of opinion owing to the presence of pigmentation in their case that there might be a supra-renal hypoplasia or even an agenesis. The autopsy in Gilford's case, however, showed no macroscopic changes in the suprarenals, but simply a condition analogous to that of sclerosed organs usually found in old people. While further microscopical researches were needed to define exactly the part played by these organs in the causation of these nutritive disturbances, it was more than probable that the cause of this senile type of dwarfism would eventually be found to be of suprarenal origin.

Diffuse Pilary Agenesis.—MM. VARIOT and FERRAND showed a girl, aged 14 years, in whom this condition was marked, especially in the cranial region. The skin of the cranium was almost entirely glabrous, the secretion of sweat markedly reduced, the sebaceous secretion was normal; there was no other congenital malformation. Histological examination of several pieces taken from the parieto-occipital regions showed complete absence of hair or even of lanugo and considerable diminution in the number of sweat-glands, while the sebaceous glands were normally developed.

A Case of Purpura Hæmorrhagica treated by Subcutaneous Injections of Peptone.—MM. NOBÉCOURT and TIXIER reported the case of a boy, aged 9 years, who for a fortnight previous to admission to hospital suffered from rheumatic pains, vomiting, and bloody, offensive stools. The day before he had violent abdominal crises, and on admission a discrete purpuric eruption, frequent bloody stools, and a bad general condition in spite of the absence of fever. There was leucocytosis with polynucleosis

and a slight increase in the number of hæmatoblasts. Chloride of calcium was administered without producing any good effect. Convulsive seizures, probably due to a meningeal hæmorrhage, supervened. This was treated by injections of ether, adrenalin and gelatinised serum. This was followed by a fresh general purpuric eruption and deterioration of the general condition. Subcutaneous injections of 5 per cent. solution of Witte's peptone were now commenced, 3 to 4 c.cm. daily; they were well borne, and produced neither general nor local reaction. The fifth injection, however, was followed by a scarlatiniform rash: the treatment was interrupted for four days and recommenced by giving a daily rectal injection of 10 c.cm. of the solution. After six days the child was practically cured.

Ventricular Hydrocephalus following Meningococcic Cerebro-spinal Meningitis.—MM. P. HARVIER and G. SCHREIBER reported the case of an infant, aged 5 months, with a benign form of cerebro-spinal meningitis cured in ten days by specific serum. Two months later symptoms of hydrocephalus appeared, with increased size of the cranium and commencing optic atrophy. Fluid drawn off by puncture of the lateral ventricle was of normal composition without any cellular reaction or micro-organisms; the fluid from lumbar puncture was identical. Repeated lumbar punctures gave no good result and the infant died six months later. At the autopsy there was no obliteration of the orifices of communication of the lateral ventricles nor of those of the fourth ventricle with the subarachnoid space. The choroid plexuses were enlarged. The lining of the ventricles was thickened so as to suggest a "ventricular ependymitis," but in the absence of histological examination the exact mechanism of the hydrocephalus could not be determined.

An interesting discussion followed, in which MM. COMBY, TRIBOULET, NETTER and others took part.

Adenoid Vegetations and Syphilis.—M. H. ABRAUD reported eighteen cases, on which he based a paper to show—(1) that in a large number of children who were subjects of abnormally large adenoid vegetations either absolutely or relatively to their age a marked syphilitic inheritance was found; (2) that in such children mercurial treatment has a marked beneficial effect on the local as well as on the general condition.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Unusual manifestations in cretinism (*Med. Record*, January 1, 1910, p. 7).—L. S. MANSON describes the case of male twins who, during infancy and early childhood, were apparently normal except that they were extremely fat. One at the age of eleven began to suffer from sudden inability to walk, which later developed into a waddling gait and epilepsy, with frequent attacks of both *grand* and *petit mal*. The other seemed normal, except for obesity, until aged fourteen, when he developed a staggering gait. Both were backward at school, and developed baldness associated with undue development of hair elsewhere than the scalp. Corporeal development was retarded except as regards the genitalia, which were hypertrophied. Mentally they corresponded to boys of half their age. No thyroid gland could be felt.

Rapid improvement followed treatment by thyroid extract in large doses up to 45 gr. daily in the case of the ataxic twin, who was more benefitted than his brother. The epilepsy in the other case was distinctly modified.

FREDERICK LANGMEAD.

Hypothyroidism in children (*Jahrb. f. Kinderheilk.*, August, 1910, abstr. *Journ. A.M.A.*).—**Stoeltzner** remarks that myxœdema is not often correctly diagnosed in children, a mistaken diagnosis of rickets being generally made. The failure to recognise myxœdema, therefore, may be disastrous. In one case, a boy, aged 6 years, had not grown in the last two years. He seemed otherwise normal, though not particularly bright. Under thyroid treatment he grew nearly $4\frac{1}{2}$ in. in eighteen months. In two other cases the myxœdema developed after severe measles and mumps, with acute thyroiditis in the latter case. The thyroid treatment was not carried out and the child developed pronounced myxœdema, but after two years it spontaneously subsided. In a fourth case the myxœdema developed after a severe fall on the front of the throat, and was promptly cured by thyroid treatment. The writer suggests that pasty children, fat, pale and flabby, may be the subjects of hypothyroidism and require thyroid treatment. Over-feeding of children with this tendency seems to entail lymphatic enlargement.

T. R. WHIPHAM.

Tetany and parathyroid insufficiency (*La Pediatría*, November, 1910, p. 816).—**A. Jovane** and **R. Vaglio** have conducted some extensive researches on this subject, and conclude that while the relation between tetany and hypo-calcification is far from being demonstrated, evident analogies exist between spontaneous tetany and that caused by parathyroid insufficiency. The numerous instances of various changes in the parathyroids of those suffering from tetany show that the theory of parathyroid insufficiency being the cause of spontaneous tetany is well founded. Even in cases where thyroid insufficiency cannot be anatomically proved it is permissible to assume that it nevertheless exists. This is especially the case with children, in whom must be taken into account their state of normal hypo-parathyroidism and the pernicious action that artificial feeding exerts on it.

VINCENT DICKINSON.

Choreal paralyses and supra-renal insufficiency (*La Clin. Infant.*, October, 1910, No. 20, p. 618).—**MM. Emile Sergent** and **Besset** report the case of a boy, aged 11 years, attacked with chorea for about three weeks, and who then developed a condition of general pseudo-paralysis which ended in absolute immobility. A few slight choreic movements of the fingers were the only remaining indications of the primary disease. The child remained motionless in bed, completely apathetic, the limbs flaccid, speech lost, the sphincters relaxed and reflexes abolished. The depression was so marked as to recall the asthenia of supra-renal insufficiency, and the analogy was so striking that the administration of supra-renal extract was tried. The paralytic symptoms disappeared on the re-appearance of the choreic movements and rise of arterial tension.

VINCENT DICKINSON.

Partial gigantism (*Allg. Wien. med. Zeit.*, May 3, 1910, p. 199).—**Hinterstoisser** showed a girl with partial gigantism. At birth the index and middle fingers of the right hand were much larger than on the left. The right index finger was 14 and the middle finger 18 cm. against $6\frac{1}{2}$ and 7 cm. of the left hand. The right upper extremity was longer and thicker than

the left. The epiphysal ends were still very big and the soft parts were also powerfully developed. There was but slight interference with movement.

M. D. EDER.

Precocious parentage ('*Lancet*,' II, 1910, p. 1027).—The *Lancet* correspondent in China has sent that journal a photograph of a father aged 8 years and a mother aged 7 years. The mother is shown suckling her baby, which measured one foot long at birth. No details could be obtained as to the development of the generative organs of either parent or as to the mother's menstrual history.

J. D. ROLLESTON.

Orthostatic albuminuria ('*Jahrb. f. Kinderheilk.*,' April, 1910).—Götzky has examined 346 children between the ages of five and thirteen years for albuminuria, and finds that the orthostatic variety is present in 14.5 per cent. Enlarged tonsils or chronic pharyngitis were frequent accompaniments to the condition. No trace of pathological lordosis was present in a large number of the children, and true lordosis was quite frequent among the children free from albuminuria. The writer emphasises the necessity for prophylaxis as the main point in treatment. Chills should be avoided, especially from wetting of the feet. Over-exertion should be guarded against, but games in moderation may be allowed. The albuminuria itself should be left untreated.

T. R. WHIPHAM.

Orthostatic—lordotic—albuminuria ('*Arch. f. Kinderheilk.*,' LII, No. 4).—Fischl deals with the increasing acceptance of the mechanical theory of orthostatic albuminuria—that it is due to lordosis. He states, however, that besides lordosis there must be some predisposition on the part of the kidney or the albuminuria does not follow, and suggests the term "lordotic albuminuria in the predisposed." Treatment should be based on the mechanical theory, and everything avoided that tends to produce lordosis, such as long standing and bending of the spine. A correcting corset may be useful.

T. R. WHIPHAM.

Acute pyelitis in children ('*Med. Record*,' July 30, 1910, p. 209).—George B. Philhower reported at the Medical Society of North Jersey the histories of six cases of acute pyelitis, all females, and five of these six cases had influenza. The diagnosis rested on the microscopical examination of centrifuged urine.

JAMES E. H. SAWYER (Birmingham).

Post-scarlatinal anuria of five days' duration ('*Med. Record*,' 1910, II, p. 706).—W. P. Northrup records a case in a boy, aged $3\frac{1}{2}$ years, the history of whose illness he divides into three periods. First period of twelve days: Severe anginose scarlet fever; 5000 units of antitoxin. No diphtheria bacilli subsequently found. Half an hour after the injection he had a chill and became partially collapsed, and for the next three or four days had a marked urticarial rash. Second period of five days: During this time he passed into absorbent cotton-wool only a few drops of urine—not enough to measure. He had general anasarca and ascites, but no symptoms of uræmia. Third period: He began to pass small quantities of urine rich in albumin, reddish, and containing a large number of granular casts. Complete recovery finally took place. Two other apparently authentic cases have been recorded, one of eight, and the other of twenty-five days' anuria after scarlet fever. The authenticity of the present case is rendered probable by the fact that both the parents were medical graduates.

J. D. ROLLESTON.

Nephritis complicating impetigo (*Cleveland Med. Journ.*, 1910, p. 686).

—**Phillips** calls attention to the occurrence of acute nephritis as a complication of impetigo, which has been observed by several authors, and reports two cases which he regards as examples of this condition. In the first, a boy, aged 3 years, impetigo had been present for eight days before the occurrence of œdema and the signs of acute nephritis. Two days later the child came under observation. His temperature was then 104° F., respiration-rate 40, and there was a leucocytosis of 46,200. The urine was much diminished in quantity and showed blood and casts. Four days later there were pulmonary signs of pneumonia. On the ninth day following the appearance of the nephritis the temperature dropped by crisis and the cutaneous and renal conditions rapidly improved. The second case was in a female infant, aged 14 months, in which diarrhœa and a sore mouth also complicated the impetigo. The urine showed a heavy precipitate of albumin, a few leucocytes, and some hyaline and epithelial cells. The impetigo was cured in three weeks and then the urine rapidly became normal.

REGINALD MILLER.

The clinical varieties of poliomyelitis (*Western Med. Rev.*, August, 1910. *Abst. Journ. A.M.A.*).—**McClanahan** groups cases of poliomyelitis under five heads: spinal, bulbar, meningeal, polyneuritic, and abortive. The ordinary type is the spinal as described by Charcot. In the bulbar type there is an involvement of the nuclear centres in the medulla oblongata. Among the author's forty-five cases four were of this type and all were fatal. One had paralysis of the facial nerve and another paralysis of the motor nerves of the eyes without the face being involved. The meningeal type is characterised by meningeal symptoms, fever, pain, often headache, rigidity of the neck and some unconsciousness, and may easily be mistaken for cerebro-spinal meningitis. In the polyneuritic type of cases there is generally hyperæsthesia, and sometimes intense pain, usually in the legs or back. In the abortive cases all the symptoms of the onset of the disease occur, but there is no paralysis, the patients recovering in a few days. The diagnosis of such cases can only be made in epidemics when other children in the same household have been affected.

T. R. WHIPHAM.

Symptomatology of acute poliomyelitis (*Pediatrics*, August, 1910, p. 542—*Special Poliomyelitis Number*).—**Shidler**, in an analysis of nineteen cases, found that the onset was sudden in twelve cases, the patients being apparently in perfect health the day before. The temperature was high in six cases, moderate in eight; in the remainder it ranged from 99° to 101° F. The fever lasted from one day to seven days, and usually declined by crisis. Stiffness of the neck was marked in all but two cases. General tenderness was present in all but one case. Vomiting was marked only in five cases. Basilar headache was complained of in all the cases. Constipation was the rule; diarrhœa was exceptional. Paralysis usually occurred with the fall of temperature; it varied in intensity, and involved any groups of muscles; paralysis of both legs seemed to be the most common. In about 85 per cent. of the cases the paralysis passed off entirely, sometimes quickly, sometimes gradually; about 10 per cent. made a partial recovery, and 5 per cent. showed no improvement.

J. E. BULLOCK.

Poliomyelitis in Nebraska (*Western Med. Rev.*, 1910, p. 281).—**G. P. Shidler**.—From July to September, 1909, there was an epidemic of poliomyelitis in South-east Nebraska. The variations in the clinical picture

led to open professional differences, in consequence of which charlatans profited considerably. The present paper is based on the study of sixty personal cases: 25 per cent. of the patients were under three, and 10 per cent. were ten years of age; thirty-one were males and twenty-nine females; 31 per cent. occurred as single cases in families with more than one child, and 44 per cent. in families with two or more children, all of whom acquired the disease. In large families where sanitation was disregarded there seemed to be a slight tendency for more of the members to be affected, but most of the patients had clean homes. The worst paralyses occurred in children from eight to twelve years old. Paralysis of both legs was the most frequent localisation. In a large number there was no paralysis, and in another large class only inco-ordination existed. These cases occurred in families where other members had typical paralysis. Nuchal rigidity was the rule even in mild cases. General hyperæsthesia was frequent. In severe cases Kernig's sign was usually found from the second to the fourth day. Among the unusual symptoms noted were strabismus, opisthotonos, formication, numbness, photophobia, sphincter and bulbar paralysis. In mild cases improvement began in a few days, and complete recovery was obtained in three to four weeks. In severe cases there was usually slight improvement, but final atrophy. The mortality was between 7 and 11 per cent. During the epidemic poliomyelitis was mistaken for the following conditions: injury to foot, tonsillitis, typhoid fever, influenza, rheumatism, and diphtheritic paralysis.

J. D. ROLLESTON.

Pain and sensory disturbances in the chronic stage of infantile paralysis (*Med. Press,* August 24, 1910, p. 187).—**Hernaman-Johnson** thinks it probable that in all but the mildest cases of infantile paralysis permanent damage may occur, not only to the motor cells of the anterior cornu, but also to the nerve-elements propagating the impulse of pain and temperature. Cases exhibiting sensory phenomena may be divided into two groups: (1) Those having impaired conduction of efferent impulses; (2) those in which there is actual pain. The first is the more numerous class, and includes those cases in which there is severe paralysis, marked wasting, and coldness. In such there is not only impaired conduction of heat and cold, but also some dulling of the sense of touch. In the second class the pain is not constant, but is brought on by the slightest exertion. The patients are of poor physique, but the paralysis is neither extensive nor severe, and faradic irritability is never wholly lost.

T. R. WHIPHAM.

New sign in infantile meningitis (*La Clin. Infant.,* October, 1910, No. 19, p. 604).—**Brudzinski**, the discoverer of it, calls it the "nuchal sign."

It is easy to elicit, and consists in the fact that passive flexion of the neck causes flexion of the lower limbs at the knees and coxo-femoral articulations in drawing up the extremities towards the pelvis. To elicit this sign we proceed thus: The child lying horizontally with the lower extremities extended, the head is taken in the left hand and flexed while the right hand is placed against the infant's chest to prevent him rising. The author has verified this sign in 26 cases of meningitis, and in all these the diagnosis was based not only on the clinical phenomena but also on lumbar puncture, and in some cases by autopsy. In these 26 cases the meningitis was of various origin; tubercular, 11 cases; cerebro-spinal, 6 cases; serous, during various infective disorders, 7 cases; acute meningitis, 1 case; encephalo-myelitis, 1 case. In these 26 cases the author's sign was present in 100 per cent., Babinski's sign

in 42 per cent., and Kernig's in 39 per cent. The researches of Brudzinski show that this nuchal sign may be of great utility in the diagnosis of doubtful cases of meningitis, greater than that of Kernig, for it occurs more frequently and independently of the child's age.

VINCENT DICKINSON.

Cerebro-spinal meningitis in children (*Gaz. Hebd. des Sci. Méd. de Bord.*, July 31, 1910, p. 363).—**Moussous** and **Rocaz** consider the chief diagnostic symptoms are the sudden onset with headache, vomiting, and rigidity of the spine and neck. Kernig's sign, though not pathognomonic, has much value when present bilaterally. The upper limbs are rigid, and Chauffard has described the following sign: When the child is seated and the forearm half flexed on the upper arm extension of the forearm is difficult and painful; this disappears when the child is lying down. Paralysis of muscles are not common, but facial paralysis has been described by several observers. The deep reflexes are as a rule exaggerated. Babinski's reflex is noted in 45 per cent. Headache and generalised hyperæsthesia are the rule. Intelligence is preserved till coma supervenes. Fever is almost constant, but variable and irregular; pulse and respiration are accelerated, and both may become irregular towards the end. Complications are numerous. Endocarditis is not rare, sometimes ulcerative. Hydrocephalus and epilepsy may follow. Eye complications of all kinds, deafness, etc. Lumbar puncture fluid is clear during the first twenty-four hours, then becomes cloudy in most cases. It contains an abnormal number of polymorphonuclear leucocytes. Albumin is always increased and glucose diminished, also sodium chloride is lessened in amount. The cryoscopic point is lowered. The meningococcus may be very difficult to demonstrate, and some writers employ a serum agglutination test instead in doubtful cases.

J. PORTER PARKINSON.

Hysteria in childhood (*Clin. Journ.*, xxxvi, 1910, p. 305).—**Robert Hutchison** does not attempt to define hysteria, but gives a purely objective description based on his own clinical experience. He considers hysteria rare in childhood, and doubts whether it can be recognised with certainty below the age of five years. It is quite as common in boys as in girls until near puberty, when the preponderance is with the female sex. It assumes a simpler form in children than in adults, for there is usually only one hysterical manifestation present. There appear to be two causes: (1) Predisposing, which includes inheritance and the education; (2) exciting, of which the commonest are injury of some sort, and fright. Cases illustrating motor manifestations are given, including hysterical paralysis, astasia-abasia, hysterical fits, contractures of joints, and hysterical tremors. Sensory manifestations are less common than motor in children, but there may be hemi-anæsthesia, anæsthesia of one limb. Hysterical hyperæsthesia is very difficult to be sure of, and cases must be under observation for some time before such a diagnosis can be made. Respiratory manifestations form a large and interesting group, in which are described mutism and aphonia, hysterical cough, hysterical cry, and hysterical dyspnoea, or tachypnoea. Of ocular manifestations blepharospasm is the most common, and usually begins with a slight conjunctivitis or ulceration of the cornea. Hysterical ptosis is sometimes met with, and limitation of the field of vision occurs, but is less constant in hysterical children than in adults. The visceral and mental manifestations are much more difficult to describe, because one gets on the

confines of congenital moral deficiency, or of mere bad temper, and also on the borderland of neurasthenia, and the precise distinction of hysteria from these conditions becomes difficult.

The following points in the diagnosis are laid stress upon: (1) Remember the possibility of the occurrence of hysteria in childhood; (2) hysteria is to be diagnosed with fear and trembling; (3) symptoms and signs which cannot be voluntarily produced or simulated are probably not hysteria; (4) there is often something exaggerated or bizarre in hysterical manifestations; (5) it is suggestive of hysteria when the effect is out of proportion to the cause; (6) inconsistency of the symptoms with themselves is suspicious of hysteria; (7) a sudden onset or disappearance of the symptoms or causeless variations in their intensity is suggestive of hysteria; (8) the maintenance of a good state of the general health.

The prognosis of hysteria in childhood is good as regards immediate cure, certainly better than in adult life, but the difficulty is to prevent relapses.

In the treatment, the first and most essential point is isolation. Wholesale neglect is the best attitude to adopt, and certainly the doctor and nurse must not be over-sympathetic. Taking the patient unawares is often successful, but if it fail subsequent treatment is rendered more difficult. "Suggestion" is of great help, and of other aids the author believes in the old-fashioned treatment by cold shower-baths. Drugs, such as valerian, are perhaps helpful, and in some cases tonics may be necessary, such as iron, arsenic and strychnine. Convalescence must be complete, and the child kept away from home for a considerable time until it has well recovered from the hysterical habit.

JAMES E. H. SAWYER (Birmingham).

Surgery.

Cystoscopic diagnosis of renal tuberculosis in boys (*Med. Klin.*, January 9th, 1910).—**Portner** states that cystoscopy in girls, even when infants, is no more difficult than in adults, but that in boys the case is different, owing to the small diameter of the urethra. The presence of renal tuberculosis should be always suspected when frequent micturition, pain in the bladder, and pyuria are present, and inoculation of guinea-pigs should be undertaken in every case of pyuria, especially in children, which does not show a tendency to improve. It is possible to use a small calibre cystoscope on a boy of two years and upwards, and to catheterise the ureter from the age of 8 years. A general anaesthetic is essential, as superficial anaesthesia is inadequate. The bladder reflex continues longer than the corneal, and unless it is abolished the bladder will be intolerant of the fluid introduced, and will expel it, or may bleed. Tuberculosis of the urinary system seems to be more fatal in children than in adults, but this may be due to the fact that we have not learned to diagnose it early enough.

T. R. WHIPHAM.

A case of foreign body calculus (*Journ. of Amer. Med. Assoc.*, October 22, 1910, p. 1444).—**Hirsch** saw a girl, aged 5 years, who for seven months had lost control over the bladder and had suffered from pain referred to the vulva at the end of micturition. Rectal examination revealed a movable mass, apparently in the bladder. This was confirmed by the passage of a sound and by a skiagram. No albumin or casts were present in the urine. Through a supra-pubic cystotomy a stone weighing 5.5 gm. was removed. This consisted of calcium phosphate with magnesium phosphate

and calcium oxalate, and contained in the centre a pin. The child made a good recovery.

T. R. WHIPHAM.

Vesical calculus in a child; method of causing spontaneous expulsion (*Giorn. internat. delle Sci. Med.*, 1910, III, p. 125).—**G. Li Virghi** reports the case of a boy, aged 3 years, who had all the typical symptoms of calculus in the bladder. It was surmised that the stone was a small one and that lithotripsy was indicated rather than lithotomy, but the narrowness of the urethral canal rendered this impossible. The urethra was therefore dilated by means of bougies twice a week commencing with N. 8 Ch., followed by an injection of about 80 c.c. of a warm solution of sublimate, 1 in 6000, and massage of the neck of the bladder *per rectum*. After forty-two days of this procedure N. 14 Ch. was reached, and after the injection the stone was expelled as far as the meatus, which was incised to effect its escape. It measured 12 mm. in length, 6 mm. in thickness, weighed $\frac{1}{2}$ grm., and was composed entirely of phosphates. In childhood the causes which prevent the expulsion of calculi are: (1) The fundus of the male bladder in infancy is relatively less developed than in the adult; laterally it is less roomy and presents an over-elongated antero-posterior diameter. In abnormal cases the little-developed posterior parietes present a kind of sac or diverticulum beyond the trigone. If the nucleus of the calculus reaches this fold it tends to become lodged there without the mass of urine being able to remove it. (2) In the infant the prostate is represented by a ring, and is situated in an elevated position so that a foreign body cannot engage the vesical sphincter and pass down the urethra. The causes which prevented the passage of this small stone were: (1) Although the stone was light and small it was oblong, and possibly got across the neck of the bladder. (2) The natural narrowness of the neck of the bladder and the position of the prostatic ring. (3) The vesical contractions in attacks of pain were not expulsive, since the vesical sphincter is involved together with the rest of the muscle and its closure rendered more firm. The spasmodic contractions were therefore powerless to effect the expulsion of a foreign body.

VINCENT DICKINSON.

Cerebral hæmorrhage and operation in the new-born (*Arch. of Pediat.*, 1910, XXVII, p. 361).—**F. T. Murphy** and **J. R. Torbert**.—A first-born child, delivered by breech labour, presented left hemiplegia and a bulging fontanelle on the morning following birth. Intra-cranial hæmorrhage was diagnosed. In the course of the day the child had convulsive movements of the face, and periods of cyanosis and twitching of all the extremities. Lumbar puncture yielded two drachms of almost pure blood. At the operation, performed by Murphy twenty-seven hours after birth, a large horse-shoe flap which included the right parietal bone was turned down on the right side. On opening the dura the blood spurted out to the height of several inches. The whole right hemisphere was irrigated. As there was still much bulging of the brain substance, the anterior fontanelle was opened to the left of the middle line for about an inch, and a considerable quantity of blood was evacuated. The intra-cranial tension then became normal. During the next three days the child had frequent twitching on one or both sides, but was discharged in good health eight days after the operation. Death took place three weeks later from enteritis in a babies' home. The cerebral condition then was apparently normal (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, p. 288).

J. D. ROLLESTON.

Pathology.

Experimental studies on the thymus gland (*'Arch. f. klin. Chir.,'* vol. xcii, No. 4, *abst. 'Journ. A.M.A.'*).—**Nordmann** reports the result of his experiments in the removal of the thymus in a number of puppies. The gland was excised on the third and sixth weeks of life, and none of the animals lived longer than a year. The heart was found enormously dilated, especially on the right side, but there was no hypertrophy, the wall being nearly as thin as paper. The writer considers that the supra-renals are the antagonists of the thymus.

T. R. WHIPHAM.

Thymectomy and its consequences (*'Arch. f. klin. Chir.,'* vol. xcii, No. 4, *abst. 'Journ. A.M.A.'*).—**Klose** removed the thymus from puppies ten days old, and concludes from the results that the gland is a vital organ which should never be removed in young children. The symptoms following its removal are the results of an acid intoxication, presumably from nucleinic acid and a deficiency in lime, with resulting changes in the bones and brain. Partial removal of the thymus during its most active phase or complete removal during involution did not seem to cause permanent injury. The writer believes that the spleen is the organ which acts vicariously to the thymus. Treatment with thymus preparations is unable to counteract the effects of thymectomy. More logical is the administration of alkalies to counteract the acid intoxication. Rational surgical treatment is by autoplasmic operations.

T. R. WHIPHAM.

The pathology of rickets (*'La Pediatria,'* September, 1910, No. 9, p. 629).—**R. Vaglio** contributes an original article on this subject. He considers that some of the characteristic changes met with in rachitic bones are undoubtedly irritative in their nature and owe their origin to various tox-infections; others, which are quite distinct from the ordinary lesions of osteitis, are allied to the condition of constitutional anomaly which Kassowitz in a recent work declares to be pre-rachitic. The origin of this condition is to be sought for in a want of compensation for functional deficiency of glands with an internal secretion, especially of the thyroid, a deficiency which normally exists in the first years of extra-uterine life.

VINCENT DICKINSON.

Infantile paralysis (*'Practitioner,'* August, 1910, p. 231).—**Hernaman-Johnson** discusses the ætiology and pathology of infantile paralysis. He leans towards the view that it is an acute infective fever rather than an intestinal toxæmia, also that the blood-vessels are primarily affected, the motor cells being indirectly damaged, either by the pressure of extravasations, or as a result of malnutrition due to thrombosis of their nutrient arteries. He calls attention to the close parallelism between it and lobar pneumonia; he does not think there is any more call to isolate cases of infantile paralysis than there is to isolate cases of lobar pneumonia, which is occasionally epidemic. In England the epidemic form is rare, though now and then two or more children in one house may be affected at the same time. He does not think there is any fear of special susceptibility being transmitted to the offspring. He suggests the use of the term "lower motor neuron palsy of children" instead of acute anterior poliomyelitis, which commits those who use it to a pathological theory which is not proven.

J. E. BULLOCK.

The causation of infantile paralysis ('*Australian Med. Journ.*, 1910, p. 336).—**William MacKenzie** advances the view that this is a disease of the muscles rather than of the spinal cord. This he supports by the following considerations: Firstly, the deep tenderness well known often to be present in recently paralysed limbs. Secondly, the presence of fibrotic changes in affected muscles. Thirdly, by an experiment on a monkey in which the injection of a saline emulsion of paralysed muscles obtained from a child on the third day of illness brought about paralysis of the limb injected after four days. Unfortunately a septic infection occurred at the site of inoculation. The monkey was killed later and its cord was found to be normal. Lastly, the author holds that by treating the disease as a primary muscular inflammation he obtains superior results, particularly in the case of muscles which are not largely tendinous. He advises a more gradual scale of treatment than that of massage, and lays particular stress on the encouragement of voluntary movements. In some old cases he has had good results from the division of the fascia over the affected muscle. He makes no reference to cerebral or cerebellar cases.

REGINALD MILLER.

Experimental poliomyelitis ('*New York State Journal of Medicine*, vol. x, p. 330. *Annual Meeting of the Medical Society of the State of New York, January, 1910*).—**Flexner** showed that poliomyelitis is an infectious disease, caused by a minute micro-organism, which, though not seen under the microscope, can be defined and studied as though it were visible. In conjunction with Lewis, in 1909, he inoculated into the brain of monkeys an emulsion of the spinal cord of two children who had died within a few days of the onset of acute anterior poliomyelitis, and by transferring the disease continuously from one monkey to another down to the twelfth generation he has proved that it is due to a living virus. The mode of onset, and the extent, location, and degree of the paralysis vary in monkeys just as in children, but it is much more fatal in monkeys. He shows that the virus is filterable, and suggests that it may become possible to demonstrate it indirectly by means of dark field illumination or by the ultra-violet rays; also the virus is resistant to freezing, slow autolysis in the nervous tissues, or to drying over caustic potash. His experiments extended over too short a time (four months) to decide whether the disease confers immunity. He has found that the nasal mucous membrane contains the virus, and a filtrate prepared from it will transmit the disease. At a joint meeting of the American Pediatric Society and the Orthopædic Association, held in May, 1910 ('*Arch. of Pediat.*, xxvii, 1910, p. 481), he reviewed the relation of experimental epidemic poliomyelitis and its relation to human beings in the light of further investigations.

J. E. BULLOCK.

Pathology of acute poliomyelitis ('*Pediatrics*, Special Poliomyelitis Number, 1910, p. 511).—**Coulter**.—The conclusions of the Pathology Subcommittee's report on the New York Epidemic of 1907 are summed up by **Flexner** as follows: (1) Acute poliomyelitis is an infectious disease. (2) A similar disease can be produced in man, by inoculation of the human cord into monkeys, either into the cranial subdural space or into the peritoneal cavity. (3) Reinoculation from monkey to monkey apparently may be kept up indefinitely; the subdural inoculation seems to be the surest route of infection. (4) The virus resides in the brain as well as in the cord. (5) The cerebro-spinal fluid of acute cases does not contain the virus in an infective state, at least for monkeys, and the reported bacterial findings in this fluid are either contaminations or secondary invasions. (6) When

paralysis is present the virus lies in the cord and brain, for both of which it has a special affinity, and is probably no longer present in the blood, or at least, not in such a state as to produce infection in the monkey. (7) Histologically, the lesion is very similar to that in human rabies. The manner in which the monkey is infected is identical with the route of infection in the production of experimental rabies. There occurs a type of ascending paralysis in rabies which is clinically identical with that of acute poliomyelitis, and can only be differentiated by animal inoculation of the cord or brain. These facts point to a possible analogy between the infective agents in both conditions and a possible means of immunisation. (8) The virus is probably not bacterial, but possibly protozoan. (9) As the disease is only positively recognisable with the onset of paralysis, attempts at immunisation must be directed towards lessening the spread of the disease in the central nervous system and to offset the toxic action on the ganglion cells as early as possible. On behalf of the Pathological Anatomy Sub-committee, **Strauss** bases his conclusions on the findings of eight cases during the epidemics of 1907 and 1908, as follows: (1) There are changes in both the interstitial and parenchymatous tissues, but the interstitial are primary and of chief importance. (2) The ganglion cells are affected secondarily and when in contact with the inflammatory process around the vessels. (3) The interstitial process is dependent upon its relation to the vessels for its character and localisation. (4) While the lesions are most marked in the anterior horns of the cord, they are not confined to that portion of the grey matter; hence the word "anterior" should not be used to designate the disease. (5) The white matter of the cord is the seat of minor changes. (6) The pia infiltration is an essential element in the pathology. (7) Involvement of the medulla, pons and basal ganglia always occurs in fatal cases, but clinical experience in later epidemics has shown that such involvement does not necessarily mean a fatal prognosis. (8) The ganglion cells in the medulla, pons and basal ganglia generally escape serious morphological alteration, even when they lie near foci of infiltrated tissue. This condition is in striking contrast to what occurs in the spinal cord. (9) The brain cortex may show evidences of vascular irritation and sometimes of cellular infiltration. (10) The cedema which is present in both white and grey matter is an important factor in producing the paralysis, and explains to a large extent the transitory character of the symptoms which survive. (11) The important rôle which has been ascribed to the central artery of the cord by previous observers is unjustifiable, but the central vein has an active part in the production of the lesion, and it is now proven that the other vessels of the cord also transmit the virus and take part in the production of the lesion. (12) There is no evidence of thrombosis. (13) Apparently the infective agent may affect any part of the central nervous system. (14) It is difficult to determine absolutely from a study of the pathological histology whether the infection is of hæmatogenic or lymphogenic origin.

J. E. BULLOCK.

Treatment.

Report of Treatment Sub-Committee on the New York epidemic of poliomyelitis in 1907 (*Pediatrics, Special Poliomyelitis Number, August, 1910, p. 516*).—**Coulter**.—At the commencement of the disease the bowels must be opened by calomel or castor oil, followed by Rochelle salts, or if necessary, an enema. Retention of urine must be borne in mind and relieved if it occurs; the diet must be liquid and simple. In case of high temperature

and pain in the head and neck the ice-cap is to be applied. To relieve soreness and reduce temperature the warm bath is recommended: it promotes sleep and relieves much of the rigidity found in the meningeal cases and the soreness of peripheral cases. The temperature of the bath should be maintained at 100° F. for ten to fifteen minutes; should the temperature not be reduced by the bath small doses of antipyretics may be used: for the pain, bromides, phenacetin or antipyrin are recommended. Early in the disease counter-irritation along the spine either by mustard leaf or tincture of iodine is useful. Lumbar puncture is advisable in cases with marked meningeal symptoms. After the subsidence of the acute stage and when paralysis exists care should be taken to avoid bed-sores: the limbs must be kept warm. Deformity in the paralysed limbs must be avoided by careful arrangement of the limbs; should deformity occur in spite of physiological and mechanical means, it must be remedied by surgical procedure. Massage and passive movements may be used early if done carefully and not for too long a time. Electricity must not be used until acute symptoms have subsided; it may be applied to inaugurate voluntary movement; if voluntary movement is possible it is better than electricity.

J. E. BULLOCK.

Congenital syphilis and "606" (*Deut. med. Wochens.*, 1910, p. 1790).—**G. Herxheimer** and **F. Reinke**.—In two cases of congenital syphilis in which intra-muscular injections of "606" had been made two and four days respectively before death no spirochætes were found in any organs except the lungs, and then only in a state of agglutination and degeneration. The destructive action of the drug on spirochætes is thus remarkably demonstrated, since as a rule those organisms are present in enormous quantities in congenital syphilis.

J. D. ROLLESTON.

Treatment of acquired syphilis in a young child with "606" (*Bull. de l'Acad. de Méd.*, 1910, LXIV, p. 142).—**A. Netter**.—A girl, aged 2 years, whose parents had been infected about six months previously, presented hypertrophic vulvar and anal condylomata and numerous mucous tubercles in the mouth. Abundant treponemata were found on examination of the anal lesions. On July 7, 5 mgrm. of biniodide were injected into the buttock, followed two days later by an intra-gluteal injection of 10 cgrm. of "606." Within five days the lesions had almost entirely disappeared. Wassermann's reaction, performed on September 7, was negative. When seen on October 1 the child was in good health.

J. D. ROLLESTON.

Treatment of syphilis with "606" (*Gaz. des Hôp.*, Nov. 15, 1910, p. 1767).—**Prof. Gaucher**, as the result of his experience at the St. Louis Hospital, Paris, comes to the following conclusions: (1) Relapses are common (seven out of thirty cases); (2) some cases are refractory to the drug; (3) other cases heal at the same rate as cases treated by mercury; (4) some lesions heal rapidly, viz. superficial ulcers, mucous patches and benign lesions, which also heal rapidly under mercury; deep-seated lesions are more refractory; (5) some lesions which have resisted mercurial treatment certainly heal under "606," at any rate temporarily; (6) the drug has no action on visceral syphilis, nor on quaternary or parasymphilitic lesions such as lingual leukoplakia, general paralysis or tabes; (7) "606" has little toxicity and is not dangerous, except in the conditions originally contra-indicated by Ehrlich (in children and old people; in debilitated, alcoholic and cancerous subjects; in lesions of the fundus oculi; in organic disease of the

heart, liver, lungs and kidneys; in arteriosclerosis and aneurysm; in affections of the central nervous system). To sum up, Prof. Gaucher, while admitting that "606" is a new weapon against syphilis, regards it as an exceptional remedy, to be used when mercury does not succeed, or when the patient is intolerant of mercury, but, as he truly remarks, such cases are rare.

C. F. MARSHALL.

Reviews.

PARIS MÉDICAL: LA SEMAINE DU CLINICIEN. Directeur: LE PROFESSEUR GILBERT. Paris: J. B. Baillière et fils. France, 12 fr.; Étranger 15 fr.; Le 1^{er} No du mois, 50 c.; Les autres Nos 20 c.

WE have received the first three issues of this attractive journal. An interesting account is given in the first number by Prof. Gilbert, of the Hôtel Dieu, the second contains an article by Dopfer on meningitis in mumps, and the third, a critical essay on erythema nodosum by Lereboullet and Faure-Beaulieu. A special number is to be devoted next December to the medicine and surgery of childhood.

THE TREATMENT OF SYPHILIS BY THE EHRLICH-HATA REMEDY, "606" (DIOXYDIAMINOARSENOBENZOL). A COMPILATION OF THE PUBLISHED OBSERVATIONS. By DR. JOHANNES BRESLER. Second edition: Translated by Dr. M. D. EDER, with an abstract of the more recent papers. London: Rebman, Limited. Price 2s. 6d. net.

THIS useful little book contains a chronological account of the publications relating to "606." Several interesting cases of its successful use in congenital syphilis have been recorded, but we note that Wechselmann advises that only children with faultless nutrition should be submitted to this treatment.

The translation has been well carried out by Dr. Eder, with whose scholarship the readers of this journal are familiar.

In the appendix, in which the literature up to and including last October has been summarised, Dr. Eder has wisely given "a fuller abstract of those articles which describe any disasters, or dwell upon points of technique, or present the contra-indications, than of the papers which swell the list of successful results."

LEHRBUCH DER KINDERHEILKUNDE. By PROF. BERNARD BENDIX, Lecturer on Children's Diseases, and Physician to the Charlottenburg Infants' Hospital. Berlin and Vienna: Urban and Schwarzenberg, 1910. Pp. 671. Price M. 15 paper cover; M. 17 bound.

THE sixth edition of Prof. Bendix's book has been thoroughly revised and brought up to date. As a text-book for practitioners and students it is a very useful and reliable work. The opening part is concerned, firstly, with the normal child and its functions, its feeding and its up-bringing, and secondly, with the sick child, its general symptoms and physical signs, and

the principles of dietetics and therapeutics. Then follows an account of the diseases of the new-born and of the various affections of childhood arranged under the different systems, though exception perhaps might be taken at the inclusion of Basedow's disease under the circulatory system. The book is written in a clear, succinct manner without any unnecessary padding, and for the most part contains a wealth of information and detail which renders it exceedingly valuable as a work of reference. As an instance of this we may mention that under the ætiology of endocarditis a list of over twenty diseases and causes are given, but the statement that "in many cases it develops idiopathically" is not likely to be generally accepted. Again, the causes of myocarditis include phosphorus poisoning—a condition seldom met with in children. With these and other instances of the completeness of the information supplied it is somewhat surprising to find that hæmophilia is dismissed in eleven lines, no mention being made of the transmission of the condition through the female line, and that only comparatively short accounts are given of tuberculous peritonitis, bronchiectasis, and Addison's disease. The last three are further relegated to small print, which is otherwise reserved for the less important and less common diseases of children, and for the sections on pathological anatomy, etc. The same remarks apply to the section on diseases of the lymphatic glands, in which we find no mention of lymphadenoma, that disease being briefly described under the heading of "Pseudo-leukæmia." This brings us to the chapter on diseases of the blood, which is a little disappointing and scarcely full enough considering the amount of work that has been done recently in hæmatology. For instance, no mention is made of the actual numbers of leucocytes that may be met with in leukæmia—a point with which every student should be familiar.

The treatment of the various diseases is given in a short and concise form, the reader not being confused by a multiplicity of prescriptions or drugs. In passing we notice that the author recommends thyroïdin in cases of Mongolian idiocy, a form of treatment which is generally of little use except on general grounds.

To each section is appended a bibliography, and frequent references occur in foot-notes. The authors quoted, however, are nearly all German, scarcely any English being referred to. Throughout the text there are numerous illustrations, which are for the most part adequate, though the one of a Mongolian idiot is not very convincing.

Objection must be taken to the association of the name of Bright with chronic parenchymatous nephritis instead of the chronic interstitial variety, and also to the word "measeles."

We have dealt freely with the defects of the book, not so much by way of carping criticism, as in the hope that in a future edition the author may see his way to make some amendments in what is really a very useful work. Many of the chapters are exceedingly good, and special mention may be made of those dealing with the digestive and circulatory systems and of the account of the infectious fevers.

The printing and general get-up of the book is in every way excellent.

Correspondence.

CLEAN MILK.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

SIR,—It is recognised on all sides that few matters are of greater importance in promoting the health of the nation than a pure milk supply. Yet, unfortunately, milk is peculiarly susceptible and liable to contamination, not only while it is in the hands of the producer and retailer, but also as soon as it reaches the consumer. For want of due care in handling, milk is frequently, as is well known, a potent factor in the dissemination of a number of serious diseases, and has great influence on infant mortality.

Since the inception of the National League for Physical Education and Improvement in 1905, the question of pure milk has occupied a prominent position in its programme, and a special committee of eminent experts has devoted much time to the problem. The League is now undertaking definite, practical steps to deal effectively with the matter. Pending more adequate legislation than at present exists, it is hoped that this action will arouse the nation at large to a sense of its responsibility in the matter. The intention, briefly stated, is to instil into the minds of all concerned in the production and consumption of milk a knowledge of the simple rules required to ensure its purity and cleanliness.

Full details of the scheme and of the standard leaflets on which it is based will gladly be sent on application to the Secretary of the League, at 4, Tavistock Square, London, W.C.

We are, etc.,

For the National League for Physical Education and Improvement,

(Signed) W. B. RYON, *Chairman of the Executive Council.*

F. MAURICE, *Maj-Gen., Hon. Vice-Chairman.*

LAUDER BRUNTON, *Vice-Chairman.*

JOHN TWEEDY, *Vice-Chairman.*

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H. RUSSELL WAKEFIELD.

MARY A. WARD.

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A. T. WAUGH.

Members of the Executive Council.

4, Tavistock Square,
London, W.C.

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Original Articles.

SPLENOMEGALY WITH RECURRENT JAUNDICE ENDING
IN HEPATIC CIRRHOSIS AND ASCITES, WITH
REMARKS ON THE SPLENOMEGALY OF INHERITED
SYPHILIS IN CHILDREN.*

By F. PARKES WEBER, M.D., F.R.C.P.,
Physician to the German Hospital, London.

THE patient, Eliza K—, was shown before the Society for the Study of Disease in Children on March the 17th, 1905.† At that time she was 12 years old, a rather delicately built girl, with moderate jaundice. The fæces were sometimes well-coloured, sometimes pale. The urine, which was free from albumin and sugar, had recently given a slight Gmelin's reaction for bile-pigments, but gave none at that time. The lower border of the spleen could be felt three finger-breadths below the costal margin in the left nipple line, and the area of splenic dulness was greatly enlarged (by percussion $3\frac{3}{4}$ in. in breadth and $6\frac{1}{2}$ in. in length). The liver seemed not to be enlarged, though it was occasionally felt below the costal margin. The other abdominal organs and the thoracic organs

* Paper read at the Royal Society of Medicine, Section for the Study of Disease in Children, on January the 27th, 1911.

† F. P. Weber, 'Reports of The Society for the Study of Disease in Children, London, 1905, vol. v, p. 191.

showed nothing abnormal, excepting that there was at times a slight systolic murmur to be heard over the pulmonary area of the heart. Pulse, about 84 per minute, but very much increased in frequency on excitement.

The teeth were not very well formed, but were not distinctly "Hutchinsonian." Ophthalmoscopic examination showed nothing abnormal. A blood-count (February, 1905) gave: Red cells, 4,824,000 in the cubic millimetre of blood; white cells, 5100. A differential count of the white cells (March, 1905) gave: Polymorphonuclear leucocytes, 65.2 per cent.; lymphocytes, 30 per cent.; large mononuclears, 4.8 per cent. The lymphatic glands were not enlarged. There was no fever, and the child was cheerful and complained of no pain or abnormal tenderness anywhere.

The jaundice had apparently commenced about the middle of February, after the child had complained of pain in the left side (*i. e.* on the side of the spleen, not the liver); about that time she vomited twice. Six years ago she had had two attacks of jaundice, lasting two months and one month respectively, separated by an interval of three months, during which she was free from jaundice. Though the child presented no obvious signs of congenital syphilis, the history in regard to the mother's other children was somewhat suggestive of a syphilitic taint. The mother had eleven other children altogether, out of which six were born dead and two died early.

The patient was treated in the German Hospital from February the 21st to July the 2nd, 1905. When she left the hospital she was free from jaundice, with the exception of a very faint yellow tinge over the sclerotics, and her general health appeared to be good. The spleen, however, had not at all diminished in size in spite of treatment, firstly, by a course of mercurial inunction, with the internal use of potassium iodide, and secondly, by a course of exposure of the splenic region of the body to Röntgen rays. The blood-count on July the 1st, 1905, gave 4,696,000 red cells and 3400 white cells to the cubic millimetre of blood. The edge of the liver could just be felt below the ribs.

On leaving the hospital the patient seems to have got on well, but about three and a half years later (December, 1909) she began to feel ill and became slightly jaundiced. She was re-admitted on January the 1st, 1910, with ascites. The urine (free from albumin and sugar) contained a trace of bilirubin and much urobilin. The fæces were pale yellow in colour. The liver could not be felt. The spleen was large and hard, reaching down to the umbilical

level. The patient was not in any way stunted in growth (no "infantilism"), but was somewhat thin and anæmic. A blood-count (Dr. G. Dorner) gave: Red cells 3,966,000, and 12,000 white cells in the cubic millimetre of blood; hæmoglobin 62 per cent. Dr. A. E. Boycott kindly reported that blood-films showed nothing abnormal in the red and white cells; the average diameter of the red cells was 7.4μ . The blood-serum contained bilirubin. The resistance of the (washed) red corpuscles to graduated hypotonic salt solutions was kindly tested by Dr. Dorner, and was found to be about the average or slightly above the average for normal individuals.

On January the 28th, 1910, paracentesis abdominis was performed and 5200 c.c. of clear ascitic fluid of rather low specific gravity (sp. gr. 1007) were withdrawn. On February the 10th I noted that the belly was again distended with ascites and that there was occasional slight fever. On February the 17th a second paracentesis abdominis yielded 8500 c.c. clear ascitic fluid; specific gravity 1006. The patient had increasing cachexia. A third paracentesis abdominis (March the 10th) gave 10,300 c.c. clear yellowish fluid (albumin 4 per mille by Esbach's tube). On March the 21st a fourth tapping showed that the ascitic fluid (10,600 c.c.) contained an admixture of pus-cells and gave a decidedly positive Rivalta's reaction. Death occurred on March the 22nd. At the end some minute hæmorrhages into the skin of the abdomen were observed.

Necropsy and microscopical examination.—The brain (weight, 46 oz.) and the cerebro-spinal fluid in the ventricles were not bile-stained. The heart (weight, 8 oz.) showed no valvular disease, but there were a few patches of pericarditic thickening. The lungs showed a certain amount of chronic collapse.

The peritoneum contained a considerable quantity of bile-stained ascitic fluid, slightly turbid from the presence of pus. There was some thickening and a good deal of vascular injection of the peritoneum and mesentery.

The *liver* weighed only 26 oz., was contracted, and had a "hobnail" surface. There were minute capsular hæmorrhages. Macroscopic and microscopic examination showed a medium degree of multilobular cirrhosis. The gall-bladder was adherent to the intestine by an old adhesion. No cholelithiasis.

The *spleen* was large (weight, 33 oz.), and microscopical sections showed the presence of an extraordinary degree of chronic fibrosis. Nothing of special importance was noted in the other organs. There were some petechiæ in the gastric mucosa. Dilatation of

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veins was found in the œsophagus. Some reddish lymph-glands were observed near the liver. The thoracic duct contained bile-stained fluid. The bone-marrow (shaft of the left humerus examined) was red throughout. No lardaceous change in the viscera was discovered.

In the foregoing case it is possible, but not certain, that an inherited syphilitic taint was the cause of the great enlargement and fibrosis of the spleen, and that it likewise predisposed the hepatic tissue to cirrhotic changes. As to the possible influence of alcohol, it is worth while mentioning that the mother used at one time to give the child a small "drop" of brandy and water when she was not well, and, later on, the child used to take stout for a time. The great enlargement and advanced fibrosis of the spleen make it improbable that the condition of that organ was entirely secondary to the cirrhosis of the liver.

REMARKS ON THE SPLENOMEGALY OF INHERITED SYPHILIS IN CHILDREN.

On February the 8th, 1909, I showed a boy, John B—, aged 11 years, with chronic enlargement of the spleen and liver, at the Medical Society of London.* The spleen, of rather hard consistence, reached two or three finger-breadths below the ribs. The liver bulged forward in the epigastric region, and its lower edge could be felt two finger-breadths below the costal margin in the right nipple line. There was frequent slight bleeding from the nose or gums. The boy had a rather cachectic appearance, but was not really anæmic. Indeed, whilst he was under observation at the German Hospital (December, 1908, to May, 1909) his red blood-corpuscles were found to vary in number between 5,500,000 and 7,000,000 in the c.mm. of blood. The liver was apparently becoming cirrhotic. Calmette's ophtharmo-reaction and Pirquet's cuti-reaction for tuberculosis both gave negative results. There was a doubtful history of jaundice in 1907. No certain signs of inherited syphilis could be discovered, though there were points in favour of the presence of this taint. I hear that in October, 1910, he was admitted into the Hackney Union Infirmary with ascites. His belly was tapped three times before his death in December, 1910. The assistant medical officer, who made a post-mortem examination, kindly informs me that the liver was cirrhotic, exceedingly shrivelled and tough, with a very irregular and nodular surface. The spleen was big and apparently somewhat fibrosed. The mesenteric lym-

* F. P. Weber, 'Trans. Med. Soc. London,' 1909, vol. xxxii, p. 368.

phatic glands were enlarged. There was hydrothorax and hydro-pericardium, but no organic disease of the heart or lungs.

In children with splenomegaly supposed to be due to inherited syphilis hepatic cirrhosis is often likewise present.* In September, 1910, I saw a boy, Edward S—, aged 11½ years, with splenomegaly, apparently connected with an inherited syphilitic taint. As in the previous patient (John B—) the teeth were not well formed, but were not distinctly "Hutchinsonian." The spleen extended downwards nearly to the umbilical level. The liver could not be felt. There was a history of two attacks of jaundice, close together, about two years previously. There were no definite signs of inherited syphilis, except that the Wassermann sero-reaction for syphilis (kindly tried by Dr. H. R. Dean at the Lister Institute) was positive. The boy afterwards developed nephritis and ascites and died in January, 1911, of uræmia. At the necropsy the liver (weight, 23½ oz.) was found to be cirrhotic, of the ordinary multilobular and hobnail type. The spleen weighed 14 oz., and was of rather firm consistence; there were patches of old perisplenic thickening of the capsule. The kidneys (weight together, 17 oz.) appeared hyperæmic and swollen. The mesenteric glands were moderately enlarged. Dr. J. C. G. Ledingham kindly looked over the microscopic specimens with me. The sections of the liver showed ordinary multilobular cirrhosis with a parenchymatous degenerative change of centro-acinous distribution. The hepatic cells were loaded with fat-droplets (stained with Sudan III). The kidneys showed parenchymatous nephritis. The spleen showed great congestion of the pulp and considerable small-cell infiltration about the vessels and trabeculæ. There was no history of alcohol to account for the hepatic disease. In this case the hepatic cirrhosis may have preceded and caused the enlargement of the spleen, as it apparently did in the following case, in which no evidence of syphilis was obtained.

Several years ago a girl, aged 6 years, was under observation at the German Hospital, and the presence of hepatic cirrhosis was suspected on account of persistent slight jaundice, considerable enlargement and hardness of the spleen, and a rather abnormally small area of hepatic dulness. Slight enlargement of the superficial abdominal veins was likewise noted. Some months later the child was readmitted with empyema and jaundice, and died. At the necropsy the liver weighed 15 oz. and showed coarse "hobnail"

* Cf. Robert Hutchison's remarks at the Annual Meeting of the British Medical Association, 1908.

cirrhosis. Large portions of it consisted apparently merely of rather soft fibrous material. The spleen weighed 10 oz. No certain history of congenital syphilis or alcohol could be obtained, though the mother drank gin when suckling the child.*

In two brothers, I. C—, aged 13 years, and S. C—, aged 10 years with splenic enlargement of uncertain origin, whom I showed at the Medical Society of London on February the 12th, 1906,† I could get no evidence of inherited syphilis and did not suggest that diagnosis. In neither of the brothers was the anæmia more than very slight. I saw the elder one again in February, 1908, when the spleen was still considerably enlarged and the lower edge of the liver could just be felt. Dr. R. Hutchison kindly told me that this patient was in the London Hospital in November, 1909, in much the same condition as I noted in 1906, except that he had developed signs of pleurisy at the base of the right lung. The splenomegaly in the case of the younger brother (S. C—), whom Dr. Hutchison likewise examined about that time, seemed to have disappeared.

In cases of splenomegaly connected with inherited syphilis the anæmia seems seldom to be great, even when the general appearance of the patient is cachectic. In some cases there may even be a condition of polycythæmia. In John B—, to whose case I have referred, the red blood-corpuscles were always in excess, and in the case of a girl whom I have seen in private, the polycythæmia was for a time so striking a feature that the case might almost have been called one of "syphilitic splenomegalic polycythæmia." When last seen (at the age of nineteen) she was far behind the normal in general and sexual development, and her spleen reached downwards to the level of the umbilicus. A striking feature of the case, in addition to the polycythæmia (which has now apparently disappeared), has been the recurrence of attacks of abdominal pain ("abdominal crises") of uncertain nature.

I cannot here enter into the scattered literature on the *splenomegaly of inherited syphilis*, but shall confine myself to summing up a few conclusions which, from a study of my own and other cases and the literature, have appeared reasonable to me:

(1) Moderate splenomegaly in children about the ages of five to

* In regard to a history of alcoholism in the parents of children with hepatic cirrhosis without any personal history of alcoholism in the children themselves, compare F. P. Weber's case, 'Trans. Path. Soc., London,' 1895, vol. xlv, p. 71; A. W. Fox's case, 'Brit. Med. Journ.,' 1878, vol. ii, p. 913; G. A. Sutherland's case, 'Proc. Roy. Soc. Med.' (Section for Disease in Children), 1909, vol. ii, pp. 65, 228; also G. A. Petrone's paper in 'La Pediatria,' Napoli, 1903, second series, vol. i, pp. 697-707.

† F. P. Weber, 'Trans. Med. Soc. Lond.,' 1906, vol. xxix, p. 410.

sixteen years may be almost the only evidence of an inherited syphilitic taint, but in such cases Wassermann's sero-reaction for syphilis (if available) would doubtless generally give a positive result. Other evidence of inherited syphilis is occasionally forthcoming: the teeth may be more or less of the "Hutchinsonian type," there may be interstitial keratitis, persistent cracks at the corners of the mouth, a history of skin-eruption in babyhood, a history of syphilis in the parents, or of inherited syphilis in brothers and sisters.

(2) The splenomegaly of inherited syphilis is often accompanied by occasional (usually only slight) attacks of obstructive jaundice and by excess of urobilin (and urobilinogen) in the urine.

(3) Hepatic cirrhosis, with or without ascites, may be associated with the splenomegaly, and at the time of death the hepatic cirrhosis in such cases is probably usually of the ordinary multilobular "hobnail" type.

(4) Though it seems doubtful that the cirrhosis of the liver in these cases is of specific syphilitic origin, it is quite possible that the presence of an inherited syphilitic taint may diminish the resistance of the liver towards the action of toxins (including alcohol) and render it specially liable to cirrhosis.

(5) The inherited syphilis in these cases may be—but often is not—associated with some degree of "infantilism," *i. e.* more or less retardation in general physical development and especially in the sexual functions.

(6) In these cases great caution must be employed with regard to anti-syphilitic, especially mercurial, treatment, probably on account of the general delicacy of the patients and their liability to renal and catarrhal complications. Iodide of iron seems to be useful.

(7) In these cases there is generally very little real anæmia, even when the general appearance of the patient is cachectic; and anæmia, if present, is often only temporary. In some cases, on the contrary, there may be a certain amount of polycythæmia, probably of reactive nature, sometimes sufficient to constitute a symptom-complex, which might be termed "splenomegalic polycythæmia of inherited syphilis in children."

(8) Other unknown (toxæmic?) conditions may cause splenomegaly and recurrent jaundice in children, similar to that met with in cases of inherited syphilis. "Abdominal crises" (pain, etc.), of uncertain explanation, may occur occasionally both in the inherited syphilitic and in the other cases.

(9) Cases of "familial" splenomegaly occurring in two or more

brothers or sisters may occasionally be connected with an inherited syphilitic taint, but familial splenomegaly in children (I mean splenomegaly occurring in two or more brothers or sisters who survive the period of infancy*) is better recognised in connection with congenital chronic acholuric (so-called "hæmolytic") jaundice,† and with primary splenomegaly of the "Gaucher type."‡

(10) Splenomegaly in children may be the most important sign of the presence of hepatic cirrhosis, when the former is either secondary to, or due to the same cause as, the latter.

(11) Some cases of splenomegaly in children with inherited syphilis probably ultimately present the characteristic clinical features of splenic anæmia or Banti's disease.§

REMARKS ON THE TREATMENT OF CONGENITAL SYPHILIS WITH ARSENOBENZOL ("606").

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"SYPHILIS is a chronic disease and requires chronic treatment" (Fournier). Such is the doctrine which has led to the modern treatment of syphilis by prolonged administration of mercury. Does this doctrine still hold good, or is there a short cut to salvation by means of abortive treatment?

Hitherto, attempts to abort syphilis have, as a rule, failed; but recently a new arsenical preparation has been invented by means of which it was hoped that an abortive cure might be realised, and

* Therefore, I do not here refer to the splenomegaly of infants who die with so-called "congenital obliteration of bile-ducts," or to the splenomegaly in cases of "familial icterus gravis neonatorum." On the latter class of cases see especially J. Pfannenstiel, 'Münch. med. Wochens.,' 1908, lv, pp. 2169, 2233; Nahm, *ibid.*, 1909, lvi, p. 139; and H. D. Rolleston, 'Brit. Med. Journ.,' 1910, vol. i, p. 864. Pfannenstiel and Rolleston give references to a good deal of literature on the subject.

† For the literature on the subject see F. P. Weber and G. Dorner, "Four Cases of Congenital Acholuric (so-called Hæmolytic) Jaundice in one Family," 'Lancet,' 1910, vol. i, pp. 227-232.

‡ References to the literature on the Gaucher type of splenomegaly are given by Weber and Dorner, 'Lancet,' 1910, vol. i, p. 232 (footnote); see also R. Hutchison and J. C. G. Ledingham, in Allbutt and Rolleston's 'System of Medicine,' 2nd edition, vol. v (1909), pp. 778-780.

§ The connection of some cases of Banti's disease with congenital or old acquired syphilis has been suggested by F. Marchand and others. See Marchand, "Zur Kenntnis der sogenannten Banti'schen Krankheit," 'Münch. med. Wochens.,' 1903, l, p. 463.

prolonged treatment by mercury rendered unnecessary. That such expectations are not likely to be fulfilled I have elsewhere pointed out. (1) I have also drawn attention to the fact that the so-called treatment of syphilis with "606" is a misnomer; it is true that some of the manifestations of syphilis undergo temporary resolution under this drug, but this is not the same thing as the treatment of syphilis.

Before dealing with the administration of arsenobenzol in cases of congenital syphilis, it will be well to give a summary of the conclusions arrived at:

(1) There is no proof that an abortive cure of syphilis, or *therapia sterilisans magna*, can be affected by "606" or any other drug.

(2) There is no evidence that tertiary or parasyphilitic manifestations can be prevented by arsenobenzol; in fact, it would take many years to prove this.

(3) Arsenobenzol certainly has a rapid healing effect on certain syphilitic lesions, chiefly of the ulcerative type, but this effect is not constant and is often only temporary.

(4) If arsenobenzol is indicated at all, it is chiefly in those cases which are not influenced by mercury; but such cases are rare. Moreover, there are cases which resist both drugs.

(5) Arsenobenzol has numerous contra-indications.

(6) It appears to have little or no effect on visceral syphilis and parasyphilitic affections.

(7) The injection, especially the intra-venous injection, of this drug is attended with grave risks to the patient.

(8) In the present state of our knowledge there is no drug which can replace mercury in the treatment of syphilis.

In congenital or hereditary syphilis, arsenobenzol, like mercury, may be given directly or indirectly through the mother's milk.

Direct administration.—One advocate of "606" (2) has suggested that the treatment of congenital syphilis with this drug may result in a diminution of infant mortality. Whether such a consummation—the survival of syphilitic infants—is to be desired from the eugenic point of view is a question which does not concern us here, but such survival does not receive much support from the statement that Wechselmann treated five cases, two of which recovered and three died. Such a mortality (60 per cent.) certainly compares unfavourably with the usual results of mercurial treatment.

Herxheimer and Reinke (3) reported two cases of congenital syphilis in which death occurred shortly after injection of arseno-

benzol. The first case, a child aged 2 months, received 0.04 grm., and died on the fourth day. The second child, aged 2 months, received 0.025 grm., and died on the second day. In both cases necrosis of the gluteus muscles occurred. It is stated that no spirochætes were discovered in any of the organs except the lungs, where they were in a state of agglutination and degeneration, and that this is a proof of the destructive action of the drug on these organisms. This may be of scientific interest, but our primary object is to cure the patient, not to make post-mortem demonstrations of dead spirochætes. It is also stated that it would have been impossible to save the children by any other method, but was any other method tried? It is, of course, impossible to say whether these and other reported fatal cases could have been saved by mercurial treatment, but it is common knowledge that even severe cases of congenital syphilis are peculiarly amenable to such treatment.

Some observers have attributed the fatal issue in such cases to a sudden liberation of endotoxins from the destruction of spirochætes. This is purely theoretical; more probable explanations would be that the infants succumbed to the toxic effects of the drug or to shock caused by the pain of the injection.

On the other hand, Sequeira (4) reports a successful case in which severe symptoms of congenital syphilis cleared up after two injections of "606" (0.02 and 0.06 grm.). But it is too early yet to tell whether a relapse will not occur.

Indirect administration.—Cases have been reported by Sequeira (4), Duhot (5), Taege (6) and others in which symptoms of congenital syphilis disappeared in infants suckled by mothers who had been injected with "606." As little or no arsenic was found in the milk, it has been assumed that the effect is due to the presence of an antitoxin excreted in the milk.

One of Sequeira's two cases is vitiated by the fact that the child had been previously treated by mercurial inunction. This objection may possibly apply to other cases; moreover, it should be expressly stated whether the mother had received mercurial treatment, and if so, in what form. However, granted that neither child nor mother had had previous mercurial treatment, it is a wrong use of words to call this a form of treatment for congenital syphilis. Even if the hypothetical antitoxin causes the symptoms to disappear in the infant, this disappearance is almost certainly only temporary. In the first place it is almost impossible to conceive that the disease can be aborted in the infant by the amount of antitoxin excreted in the milk after one injection of the mother with "606"; secondly, it is

manifestly impracticable, even if it were safe, to continue injecting the mother during the period of suckling. In short, such phenomena, although of scientific interest, cannot be regarded as of any practical value.

We now know that in the case of acquired syphilis relapses are common after injection of "606," and are becoming more and more frequent as time elapses. We also know, as Lane (7) has pointed out, that cases reported as "cured" have subsequently relapsed. There is no reason to believe that congenital syphilis differs from the acquired disease in its reaction to "606," and we are therefore justified in assuming that in all probability cases of congenital syphilis will relapse after this treatment, whether given by the direct or the indirect method.

On the other hand, it is well known that cases of congenital syphilis treated rationally with mercury—by hydrarg. cum creta in the milder forms and by inunction in the severer forms—do remarkably well in the great majority of cases, and if the treatment is continued a sufficient length of time the development of tertiary manifestations (late congenital syphilis, or *syphilis héréditaire tardive*) may be to a great extent prevented. As Fournier and Hutchinson have repeatedly urged, the essential element in the treatment of syphilis is the continuation of such treatment for prolonged periods. Whether this is carried out by Fournier's intermittent or Hutchinson's continuous method matters little; the main point is continuation for several years, the number of years varying according to the severity of the case, but never being less than two. In the case of congenital syphilis the same rule should apply, and it is probable that if every syphilitic infant were treated for two years with mercury we should see much less of saddle-shaped noses, interstitial keratitis, and other signs of late congenital syphilis.

Now, if a relapse occurs in a patient who is still under mercurial treatment, it usually heals when the preparation of mercury or its mode of administration is changed, or when iodides are added to, or substituted for, mercury. But in the case of a patient injected with "606" a relapse necessitates one of two things: (1) A second injection of "606," which may very possibly have less effect than the first; (2) abandonment of the treatment in favour of mercury or iodides, in which case valuable time will have been lost. Again, if a relapse occurs after the first injection of "606," why not after the second or third? In any case such a method is contrary to the established principle of continuous and prolonged treatment.

It seems to me that the only justifications for using arsenobenzol

or any other arsenical preparation in syphilis should be—(1) the possibility of effecting an abortive cure; (2) the cure of lesions which fail to react to the usual treatment. First, there is no evidence to show that any such abortive cure has ever been realised, and also no possibility of proving such a cure in the human subject. Secondly, so-called failure of mercurial and iodide treatment is more often due to the method of administration than to the drugs themselves or any idiosyncrasy of the patient. Routine methods of treatment are responsible for many failures, and there are very few cases of syphilis which cannot be healed by varying the preparations of mercury and iodide or their modes of administration. Moreover, it has been shown that some cases of syphilis are resistant both to mercury and to “606” (Gaucher [8]); also that cases which relapse under “606” may improve under mercury (Lane [7]). The foregoing remarks apply equally well to acquired and congenital syphilis.

At the discussion following Mr. Ernest Lane’s paper on “The Treatment of Syphilis by Arsenical Compounds,” Sir Almroth Wright (7) is reported to have said that “606” undoubtedly caused the disappearance of the spirochæte, and therefore cured syphilis, clinical manifestations to the contrary notwithstanding. According to this view the treatment of microbial diseases is simplicity itself—all we have to do is to kill the microbes and the disease is cured, no matter what happens to the patient. Obviously, the most thorough method of carrying out this treatment would be by cremation. But as the majority of medical practitioners have to gain a precarious livelihood by attempting to keep their patients alive, this simple and effective method does not help them much. It is small consolation to bereaved parents to be told that although their child is dead and buried the disease it was suffering from has been cured.

Another enthusiast refers to “606” as an “epoch-making discovery.” That this is true in the sense intended is now, to say the least of it, open to scepticism, but that a discovery of some sort has been made is painfully apparent—that the medical profession is not completely immunised against the proverbial gullibility of human nature.

In conclusion, I venture the opinion that, even if there were no dangers connected with the administration of arsenobenzol, there is no justification for its employment in congenital syphilis, and that the dangers (all of which are probably not yet known) render its employment absolutely contra-indicated. I would even go further,

and predict that should the "treatment" of syphilis (congenital or acquired) with this drug ever become general, and replace mercurial treatment, there will be an increase both in the amount and in the severity of tertiary manifestations, and a rise instead of a fall in infant mortality.

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THE VENOUS MURMURS HEARD AT THE ROOT OF THE NECK IN CHILDREN.

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For several years I have been keeping records of the various exocardiac circulatory bruits heard over the chest-wall. This short paper is a summary of such observations in so far as they refer to the venous hum, described by Dr. Eustace Smith (1) as a sign of tuberculosis of the mediastinal lymph-glands.

The publication of these facts has been prompted by the appearance of Dr. J. E. H. Sawyer's paper (2), whose conclusions are in agreement with my own in the main.

The presence or absence of this murmur was noted in 100 consecutive patients of all ages up to fifteen years, without respect to the nature of the disorder for which they were brought to me.

The following tables summarise the results:

	Total examined.		Murmur found.		Percentage with murmur.	
Boys	.	42	.	26	.	61·8
Girls	.	58	.	25	.	43·1
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Total	.	100	.	51	.	51·0

Age of patient.	Total examined.	Murmur found.	Percentage with murmur.
0-24 months . .	20	1	5.0
24 months-5 years . .	24	14	58.3
6-10 years . .	30	23	76.6
11-15 years . .	26	13	50.0

A general examination of persons over sixteen years of age showed that it was unusual to find any such murmur, apart from a few cases of chlorosis and other general anæmias.

The murmur is heard in the region of the sterno-clavicular articulations. My remarks as to its variations apply to the results of auscultation at the area immediately *below* the two sterno-clavicular articulations; and they are based on observations of the 51 children already alluded to, with others in addition in whom the murmur was noted.

Position of maximum intensity (65 cases).—Murmur heard on both sides in 60 per cent., 39: equal on both sides, 9; louder on right side, 21; louder on left side, 9. Murmur heard on one side only in 40 per cent., 26: on right side only, 21; on left side only, 5. Thus, murmur heard pre-eminently or exclusively on right side in 64.6 per cent., 42.

Effect of retraction of head (58 cases).—Murmur increased in intensity, 35; murmur developed (absent with head erect), 14; murmur unaffected, 9.

Effect of lateral rotation of head (10 cases).—Murmur increased in intensity, 6; murmur unaffected, 4.

Effect of recumbent posture (12 cases).—Murmur diminished or obliterated, 11; murmur increased in intensity, 1.

Effect of respiratory movements (55 cases).—Murmur loudest in inspiration in 89.1 per cent., 49; murmur loudest in expiration, 4; murmur unaffected, 2.

Effect of cardiac movements (64 cases).—Murmur loudest in diastole, 27; murmur loudest in systole, 23; murmur equally loud in systole and diastole, 14.

N.B.—From my later and more accurate observations I think that the diastolic augmentation of the murmur is more frequent than the above figures suggest.

The figures bring out the following facts:

(1) The murmur, if bilateral, is usually louder on the right side; if unilateral, it is heard more often on the right side.

(2) With the head thrown well back the murmur becomes audible when it was not heard before, and more clearly audible even when it was heard before with the head erect.

(3) In most cases the murmur is audible even when the head is held erect. Often it is but faintly heard and can only be detected by careful auscultation.

(4) Lateral rotation of the head is also likely to bring the murmur out more clearly.

(5) If the patient lies down the murmur usually disappears.

(6) As a rule, the bruit is louder during inspiration.

(7) The murmur is louder during cardiac diastole more often than during systole.

The murmur is a hum continuous through systole and diastole, but accentuated at the beginning of each phase; the diastolic accentuation is often very definite. In one case this was so marked that the murmur, which was heard unusually low down on the thoracic wall, simulated that of aortic regurgitation. It is usually low-pitched, and strongly reminiscent of the chlorotic "*bruit de diable*"; sometimes it is quite high-pitched.

Three questions, closely connected with each other, have to be answered. How is the bruit caused? Is it a sign of disease? Is it, in particular, a sign of tuberculosis or enlargement of the mediastinal lymphatic glands? It will be best to take the most limited of these questions first.

(A) This murmur is not specially associated with tuberculous adenitis within the thorax. That it was heard in 51 out of 100 consecutively examined children, some of whom were normal to all appearance, and others suffering from divers maladies, is strong evidence against its origin in any tuberculous process. Again, the age-incidence of the murmur does not coincide with that of tuberculosis. Even stronger is the fact that I have found it in healthy children whom I have known from birth onwards, children who have in the first three or four years of life (*i. e.* up to the date of examination) shown no evidence whatever of disease of any kind. Finally, in cases which were almost certainly examples of tuberculosis of the intra-thoracic glands, the murmur may be absent.

A boy, aged 12 years, came under my notice at the Bristol General Hospital, whose mother complained that he was wasting, feverish at night, and lacking in appetite. Examination of the chest showed a very definite area of dulness beneath the manubrium and to either side of it, impairment of resonance, with occasional crepitant râles at the left apex, and marked distension of the left external jugular vein. Under treatment the symptoms abated, but the physical signs remained, and within a year the condition became acute; there were distinct evidences of consolidation at the left apex, and the

boy died. There were tubercle bacilli in the sputa. Almost certainly this was a case of "bronchial phthisis" and lymph-borne invasion of the left upper lobe; and yet throughout the whole course of the disease the venous hum was never to be heard. As for other cases of the kind, the murmur has been present in some, absent in others.

(B) The second question has already been partly answered; it is clear that a murmur which is to be heard in a fair number of healthy children cannot be regarded as a sign of any gross organic disease. In several cases, however, the murmur was heard during a day or two of fever (due to acute coryza), but disappeared as the temperature returned to normal. In thin, anæmic children it seems more likely to be heard than in stout, well-favoured ones. It is probable that in some cases anæmia and fever may cause this murmur to appear in the same way as they do bruits at the cardiac base. In chlorotic girls, and in persons suffering from severe anæmia, whether "idiopathic" or post-hæmorrhagic, the venous murmurs of the neck are sometimes to be heard below the sterno-clavicular joints also.

(c) Accepting, then, the inevitable belief that this murmur may occur in healthy as well as in debilitated children, we have to look for some means of explaining the mechanics of its production. The search for a theory has only been successful in so far that an incomplete explanation has been found. First of all, the bruit is certainly venous; it is heard over the internal jugular veins in the neck and over the innominate veins beneath the manubrial area; it is continuous, but accentuated with systole and diastole, like a venous hum; and it is louder during inspiration and (in many cases) during diastole, periods in which the stream of blood entering the thorax through the chief veins is most rapid. Before we can say why there should be a murmur in the veins of so many children between the ages of three and fifteen, it will be necessary to know what is the causation of venous hums in general. In many cases, without doubt, the murmur is produced at some point in the internal jugular veins without the thorax, for it is heard in the neck even more clearly than it is over the chest-wall; and its inception or augmentation by postures which stretch the jugular veins must be due, as Dr. Sawyer says, to flattening of the lumen of the vessel by pressure against the transverse processes of the lower cervical vertebræ. I have in a case of thyroid tumour in a lad, aged 19 years, noted loud venous murmurs in the neck and below the sterno-clavicular joints, which were, I suppose, caused by compression of the internal jugular veins at their point of contact with the tumour.

Summary.—(1) In a majority of children varying in age from three to fifteen years a murmur was heard immediately below the sterno-clavicular joint or joints. It is slightly commoner in boys. It is commoner and louder on the right side.

(2) This murmur is continuous, but accentuated at the beginning of systole and of diastole, especially the latter.

(3) It is at its loudest during inspiration.

(4) Though often heard with the head in the erect position, it is in such cases heard more clearly, and in some other cases heard only, when the head is fully retracted. Lateral rotation of the head also makes it more clearly audible. It is usually abolished when the patient lies down.

(5) It is produced in the internal jugular veins; by what mechanism is not clear, though its accentuation by retraction of the head is no doubt due to flattening of the veins against the transverse processes of the cervical spine.

(6) Though associated with anæmia and febrile states, it is heard also in perfectly healthy children.

(7) It is not specially associated with tuberculosis or any enlargement of the intra-thoracic lymph-glands, and has no diagnostic value.

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THE DIFFERENCE BETWEEN THE MANIFESTATIONS OF RHEUMATISM IN CHILDHOOD AND ADULT LIFE.*

By J. BOYD BARRETT, M.B., B.Ch.

“RHEUMATISM,” says Dr. Still, “is one of the many diseases which illustrate the considerable difference which may exist between the manifestations of one and the same disease when it occurs in an adult and when it occurs in a child.”

Almost the same words are used by Dr. C. H. Dunne, of Boston, when he says that there is no disease in which the clinical pictures are more widely different in childhood and in adult life. That these remarkably similar statements are true is quite evident to anyone

* A paper read at the Royal Academy of Medicine in Ireland (Section of Medicine), February the 10th, 1911.

who has experience of the characteristics of rheumatic attacks in early life. The rare occurrence of joint complications in children, the frequency of chorea, and the presence of rheumatic tonsillitis and rheumatic nodules, with their grave significance, alone prove how great this difference may be.

(1) *Manifestations*.—The chief manifestations of rheumatism in children have been given as follows: Articular inflammations; muscular rheumatism; rheumatic nodules; endocarditis, myocarditis, and pericarditis; erythematous eruptions of various sorts, including erythema nodosum; chorea; pleurisy; and lastly, tonsillitis.

These manifestations are not mentioned in the order of their frequency or importance. They emphasise, however, in what various ways rheumatic infection shows in the child.

It will be noticed that hyperpyrexia with acute polyarthritides of adults is omitted, while many forms are mentioned which are confined to early life.

Dr. C. H. Dunne, writing in the 'American Journal of Medical Science,' July, 1908, about the peculiarities of the symptomatology of rheumatism in children, calls special attention to the frequency with which rheumatism in children may make its onset with cardiac symptoms alone. He says that it begins with arthritic symptoms in only 40 per cent. of all cases, and gives the following interesting clinical classification:

(a) The mild arthritic; (b) the severe arthritic of older children; (c) latent type, beginning with fever; (d) mild primary endocarditis; (e) severe primary endocarditis with fever and incompetency; (f) mild pericarditis; (g) severe pericarditis, always with effusion.

Most, I think, will have had experience of all these clinical types of the disease, and many will agree that the mild arthritic and the mild primary with endocarditis are the most important to recognise. In these cases the absence of symptoms of urgency renders them liable to be overlooked, and the diagnosis may not be made until the cardiac lesions are obtrusive and irreparable, where early rest might have been of advantage. Anæmia of a mild type is generally present.

(2) *Rheumatic facies*.—Efforts have been made to associate with rheumatism in children a typical facies. While this may not have been entirely successful, most are agreed upon the frequent presence of a nervous temperament. The rheumatic child is often of a restless and excitable disposition.

I will quote the description of the rheumatic child given by Dr. Hutchison. It is of great interest and importance, but I am inclined

to think it is of more advantage in dealing with the community amongst whom Dr. Hutchison's labours are spent.

"These children," writes Dr. Hutchison, "are dark rather than fair; their hair is dark, their eyes are dark, and they have long, dark eyelashes. At the same time they have a peculiar white skin and a very good complexion; they have a clear bluish-white sclerotic, and they have often well-formed teeth and large, square, central upper incisors." On the other hand Dr. Still emphasises the association of red hair with rheumatism. "Out of eighty children with red hair," he states, "there was rheumatism either in the child or in the family in forty-seven."

(3) *Wasting*.—One of the causes of wasting in children which should not be overlooked is advanced cardiac disease subsequent to rheumatic endocarditis, often without any history of inflammation of the joints.

(4) *Anæmia*.—The occurrence of anæmia as a complication or associate of rheumatism is more frequent in the child than in the adult. It is more marked in the severe cases with advanced cardiac lesions. The blood is characterised by a diminution in the number of red corpuscles and greater reduction in the percentage of hæmoglobin. There is usually a leucocytosis.

(5) *Rheumatic nodules*.—The occurrence of rheumatic nodules in children further increases the difference between the adult form and that common to children. These nodules are found in young adults, and have been recorded lately by Dr. H. D. Rolleston as occurring on the external ears. They are also doubtless found late in life, but more rarely. They are associated with, and diagnostic of, the disease in children.

These nodules are round or almond-shaped, quite hard, and freely movable. They occur under the skin, and usually over bony prominences, such as the olecranon or patella. Many may be present, or there may be only one. I have lately observed two cases, each showing one nodule. In one the nodule was on the outer and posterior part of the pinna of the external ear, and in the other a large one was found over the olecranon.

In structure they are fibrous, the fibres being arranged concentrically around a core of fibrin. They are associated with endocarditis, and, according to Dr. Cheadle, when really large are equivalent to a sentence of death.

(6) *Tonsillitis*.—Of rheumatic tonsillitis it is difficult to speak with certainty. The diagnosis is often provisional, and may remain always doubtful unless the unfortunate occurrence of sequelæ or

complications, such as endocarditis, prove confirmatory. In such cases the inflammation extends to the soft palate. I have seen it in association with erythema when the diagnosis had to be made from atypical scarlet fever. That, however, was not a difficult matter. The rash was not punctiform, the symptoms were mild, and sweating was profuse. To lay stress on the frequency and importance of rheumatic tonsillitis in children I have tabulated the following remarks:

(i) *Tonsillitis followed by polyarthritis.*—At the Philadelphia Pediatric Society, May, 1909, Dr. Newlin showed a boy with polyarthritis, which developed after an attack of tonsillitis lasting one week. There was an increased area of cardiac dulness and a blowing systolic murmur at the apex, transmitted to the axilla. The attack of tonsillitis occurred in 1908, and two weeks afterwards the knee-joints became swollen, stiff, and painful.

(ii) *Endocarditis and pericarditis following tonsillitis.*—(a) At the Philadelphia Pediatric Society recently Dr. Simonis exhibited the heart of a girl aged 6 years. She had had frequent attacks of follicular tonsillitis. Autopsy showed adherent pericardium and a large vegetation, cylindrical in shape, half filling the left auricle and ventricle, and attached to the papillary muscle in the ventricle (BRITISH JOURNAL OF CHILDREN'S DISEASES, June, 1910, p. 268).

(b) Dr. Wachenheim ('Pediatrics,' 1908, p. 466) states, as a result of examination of 113 cases of rheumatism in children, that 60 per cent. of the cases had undoubted cardiac lesions, that the joints were not involved to any extent until after the fourth or fifth year, and that tonsillitis was a very frequent complication.

(iii) *Frequency of tonsillitis.*—McCrae gives 3·7 per cent. of cases of rheumatism showing tonsillitis, while Hammerschmidt gives 50 per cent., and says that all his cases showed some pharyngeal irritation. Other observers range between these two.

Gurich has reported that certain cases of rheumatism show a reaction when the tonsil is operated upon, and he believes that there is a tonsillar type of rheumatism in which the removal of the tonsillar tissue cures the disease.

(7) "*Growing pains.*"—The seriousness of "growing pains" in children has frequently been urged by many who believe in their relation to rheumatism, and grave disasters have been attributed to the neglect of rest and anti-rheumatic remedies in these cases. The question will always remain unsettled, because a history of "growing pains" can so often be elicited. Much can be gained by the discussion of this interesting point if it prevents us overlooking

what may appear trivial, and yet may be an indication of a serious condition or of danger ahead.

Dr. Coudray, writing recently in the 'Gazette Médicale de Paris,' states that these pains have nothing to do with growth, and are observed in children or young adults who present a defective balance of nutrition and are the offspring of arthritic parents.

(8) *Chorea*.—It is not intended to refer to chorea at any length. Although confined to childhood it is amply treated in the usual medical text-books.

The relationship of this condition to rheumatism resolves itself into the investigation of the statistics of clinical and pathological reports of the last sixty years, characterised by a remarkable preponderance of opinion in favour of the nearness of their connection and ending in the researches of Poynton and Paine.

It is only necessary in this instance to state that if chorea be undoubtedly a manifestation of rheumatism it further emphasises the difference between the character of that disease in the child and in the adult.

(9) *Cardiac rheumatism*.—"It is very easy," according to Dr. Lees, Consulting Physician to the Children's Hospital, Great Ormond Street, in an article on this subject in this JOURNAL, March, 1909, "to overlook a cardiac rheumatism in a child unless the physical examination is promptly and thoroughly carried out, for the cardiac muscle may be grievously affected though no murmur is to be heard on auscultation and the external evidence of rheumatism afforded by arthritis, so abundant in the adult, may be almost or even entirely lacking in the child."

The earliest rheumatic cardiac phenomenon in the child is, in most cases, an acute dilatation of the left ventricle. Affection of the cardiac muscle precedes endocarditis or pericarditis, and the first evidence of an attack is obtained by careful percussion in addition to the other signs to be mentioned.

The cardiac dulness to the left almost always reaches the nipple line, and later may extend beyond it by one or sometimes two finger-breadths. Along with this evidence of dilatation there will be a diffuse or weakened cardiac impulse, a weak pulse-wave in the arteries, an enfeebled first sound at the apex, and an accentuated pulmonary and sometimes aortic second sound. The pulse-rate is abnormally frequent, and is increased after slight exertion.

It may be added that clinical experience goes to prove that the acute dilatation of the left ventricle above described is present in even the mildest attacks of "subacute rheumatism."

(10) *Treatment*.—The treatment of rheumatic attacks in childhood differs only from that necessary in adults in the great importance of early and prolonged rest. And, as Dr. Lee has pointed out, in all cases where a suspicion of rheumatism exists, where an unexplained pyrexia and rapid action of the heart are found in association with nodules, erythema, tonsillitis, choreic movements, and other signs, much may be gained and no loss incurred by insistence on rest in bed until the symptoms have subsided. Full doses of the salicylate are given with double the quantity of bicarbonate of soda. The latter is supposed to lessen the danger of acid intoxication, but it seems too presumptuous to expect that such a profound constitutional disturbance, often ending fatally, whether it be a question of idiosyncrasy or consequent on the existence of a fatty liver, can be averted, as it seldom can be cured, by doses however large, of bicarbonate of soda.

This problem is yet unsolved, and the possibility, though remote, of averting such a catastrophe as acid-intoxication will gladly be accepted by anyone who has had experience of such a misfortune. The inclusion, therefore, of bicarbonate of soda in the drug treatment of rheumatism in children may be considered justifiable.

The administration of digitalis in suitable doses is, with certain restrictions, as much a part of the treatment of rheumatism in children with cardiac complications as in adults.

(11) *As a sequela of scarlet fever*.—Rheumatism may appear at the end of the first week or during the second week of an attack of scarlet fever, after which it is rare. The onset is insidious, and endocarditis is frequently present.

(12) *Age-incidence*.—Rheumatism is very rare in any form in children under two years. It may even be said to be rare under three years. It is most frequent in its onset between the ages of six and nine years.

(13) *Stiff neck and affection of hip-joint*.—These conditions (the latter by Sir Thomas Barlow) have been associated with rheumatism in children. While it may be difficult to prove the connection, none will object to regard such indications as suspicious and worthy of observation and treatment, especially when found in those with an hereditary history of rheumatism and not due to other apparent causes.

While some of the many characteristics of rheumatism in children have been mentioned, it is impossible to conclude without referring to two conditions, one of which is entirely associated with the adult form, the other rarely found in childhood. I refer to hyperpyrexia

and acute polyarthrititis. Of the former, one case with delirium has been reported by Dr. Gee as occurring in a boy, aged $6\frac{1}{2}$ years, and ending fatally.

Acute polyarthrititis is characteristic of the young adult form. It is found in childhood. I have seen one case in a girl in her fourth year; but this form is not very frequent at such a youthful period, and is certainly not the most usual.

In conclusion, I would say that rheumatism in childhood differs from the adult form (1) in the variety of its manifestations, (2) in its insidious onset, (3) in the mildness of the arthritic symptoms and the corresponding severity of the cardiac trouble.

London and Provincial Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, January the 27th, 1911.

Dr. E. CAUTLEY, President, in the Chair.

Intermittent Word-blindness (Congenital).—Dr. ERIC PRITCHARD showed a boy, aged $8\frac{1}{2}$ years. He was very intelligent, particularly dexterous in the finer motor mechanisms. Vision was normal, hearing good; he had one brother and one sister, both of whom were normal. The family history was unimportant. His teachers had noticed that he was particularly slow at learning to read, although he was quick at mental arithmetic, and found no difficulty in reading Arabic numerals. He could easily recognise such words as "cat," "dog," "hen," "fat," "likes," "away," when spelt aloud, but, as a rule, was quite unable to recognise the same words when written. Some days, according to the statements of two of his teachers, he could read simple sentences quite well, though on the days on which Dr. Pritchard had examined him he had been quite unable to distinguish even single letters. He could write well from dictation, and could copy written words accurately, although he did not understand their meaning unless he repeated slowly to himself the letters of which they were composed, or performed slowly the manual movements necessary for writing the same letters. Thus, though his visual memories for words and letters were defective, his auditory and kinæsthetic memories were good. The intermittent character of the word-blindness was suggestive that the condition was a psychosis rather than one due to an inherent structural fault in the visual word-centre.

Idioglossia.—Dr. ERIC PRITCHARD also showed a girl, aged $9\frac{1}{2}$ years. Her birth was three months premature, and she had always been very delicate.

Her mother's half-brother by the same father was a deaf mute. The child was noticed to be late in commencing to talk, and she was quite two years old before her speech was in any way intelligible. At school she was considered a bright child, wrote particularly well, and her composition was excellent. Her mental condition was normal, her hearing slightly defective, and when tired there was some want of attention. The speech was typically idioglossic. The vowel sounds A, E, I, O were correctly pronounced, although A was pronounced in Cockney-wise as Aye, or I. C, D, T, G were all pronounced similarly as Nee; F was pronounced as Ef-ed, H as Hay, J as Nai, P as Mee, S as Ai, U as New, V as Mew, W as Mummennew, X as Ai, and Z as Ney.

The PRESIDENT and Dr. G. DE B. TURTLE discussed the case.

Specimen from the Case of Necrosis of the Lower Jaw shown at the last meeting (*vide p. 21*).—Mr. H. S. CLOGG.—The patient was a girl, aged 7½ years, who was admitted into hospital suffering from an acute infection of the mouth resulting in necrosis of the lower jaw. Under local treatment and the injection of anti-streptococcal serum the acuteness of the inflammation subsided. When shown at the last meeting the greater part of the alveolus was exposed and dead. Shortly after this an abscess formed near the angle of the right lower jaw, and was incised. A few days later an abscess formed on the left side and was similarly treated. It soon became evident that the whole thickness of the body of the jaw was necrosed, and it was decided to remove the dead portion, although it did not appear to be loose. An examination under an anæsthetic revealed that practically the whole body and ascending ramus on the right side were necrosed. In order to facilitate the removal of the dead portion through the mouth, the body of the bone was cut through on either side and removed. The right ascending ramus was removed in its entirety with the condyloid process. The necrosis was less extensive on the left side and involved merely the outer portion of the ascending ramus. The specimen consisted, therefore, of the whole of the lower jaw except the inner shell of the ascending ramus and condyloid process on the left side. It was now about five weeks since the dead bone was removed, and in the place of the jaw there was a firm solid arch, but whether this was bone or not it was impossible to say.

Mr. MILNER BURGESS inquired as to the hæmorrhage at the operation, which Mr. Clogg said was not excessive.

A Case of Enlargement of the Liver.—Dr. T. R. WHIPHAM showed a boy, aged 9 years, who was brought to the Prince of Wales's Hospital in the middle of December with a history of having been "out of sorts" for about a month. His appetite had been capricious and he was said to have become a little thinner. For a short time previously he had also been slightly jaundiced. He had had no pain or vomiting, no rigors, and no urticaria, in fact no marked symptoms of any kind. Neither had it been noticed that his abdomen was enlarged. When first seen the patient was a fairly healthy-looking boy with a good colour, though slightly jaundiced, and did not look at all ill. On examination the abdomen was found to be enlarged owing to the enormous size of the liver, which reached to the anterior superior spine of the ilium and as far forward as the umbilicus in the middle line. Above this the edge could be traced upwards to a deep notch, to the left of which there was a large left lobe under the left costal

margin. The epigastric angle was occupied by a large, rounded swelling, which appeared to rise from the surface of the liver. There did not appear to be any enlargement upwards, the superior limit of the dulness being at the normal level. The surface of the liver and of the epigastric prominence was smooth and firm, though the swelling was perhaps a little more elastic on pressure than the rest of the organ. The spleen was just palpable below the ribs. There was no evidence of ascites. The chest was perfectly normal, and there were no enlarged glands to be felt anywhere. The boy presented no external signs of inherited syphilis, but there was a history of the mother having had three miscarriages. The boy had been under observation for the last five weeks, and during that time there had been no change in his condition, except that he now showed no definite sign of jaundice and the spleen could not be felt. His general health had not deteriorated, and his temperature had been normal. A blood-count showed an eosinophilia of 7·8 per cent., but no other marked changes. The diagnosis suggested was hydatid cyst.

Dr. PORTER PARKINSON, Dr. CARR and Dr. SUTHERLAND, who discussed the case at some length, agreed that the case was probably one of hydatid cyst, or cysts, though Dr. Sutherland could not exclude the possibility of gumma. The President thought that the lower part was not liver and might be a hypernephroma.

Embolism of the Central Artery of the Retina.—Mr. SYDNEY STEPHENSON showed a girl, aged 11½ years, who came to the Queen's Hospital for Children on December the 15th, 1910, with the complaint that she had lost the sight of one eye. Although there was no history of rheumatism, she had suffered from pains in the legs. During the past year she had occasionally complained of giddiness and frontal headache. On December the 8th she experienced some slight pain over the left eye, and on awaking next morning she found that the sight of that eye had gone. On admission: Right vision = $\frac{5}{6}$; left vision = no perception of light. Pupils equal. The left pupil had little, if any, direct action to light, but its indirect response to light was greater than that of the other pupil. When light from an ophthalmoscopic mirror was thrown into the eyes the reflex from the right eye had its normal orange colour, while that from the left was palish. The right fundus was normal. The left fundus showed the ophthalmoscopic picture characteristic of so-called "embolism of the central artery of the retina"—namely, filiform retinal arteries—œdema in and around the yellow spot region, together with a red spot at the fovea centralis. The optic disc was blurred by the surrounding œdema. On examination of the heart a slight systolic murmur was heard. No evidence of inherited syphilis. Urine normal. No micro-organisms could be grown from the blood. On December the 22nd, 1910, the optic disc was white and badly defined at upper and lower border; it was not, however, swollen. The retinal veins were perhaps somewhat smaller than those of the right eye. There could be no doubt that the retinal arteries were smaller than normal and than those in the right eye. The œdema noted in the central region of the fundus was less marked. The central red spot could still be recognised, especially by the indirect method of ophthalmoscopic examination. When digital pressure was made upon the globe the inferior artery pulsated with great readiness, but no pulsation could be made out in the superior artery. The indirect action of the left pupil to light was good, but its direct action was very slight. Left vision, no perception of light. January the 12th, 1911:

Left vision, no perception of light. Reaction of left pupil to light sluggish. The optic disc was white. The retinal vessels were still somewhat attenuated. The contrast between the fovea centralis and the surrounding fundus was not now particularly pronounced. Wassermann's reaction negative.

Examination of the heart on January 13th was made by Dr. S. A. Owen, who reported as follows: Mitral regurgitation with slight dilatation and associated hypertrophy of the left ventricle. There is no positive evidence of mitral stenosis. The right heart is slightly enlarged. The condition appears to be progressive. No evidence of infarction elsewhere. On January 19th the left eye had recovered enough sight to distinguish between light and dark. The œdema had practically disappeared, the retinal arteries were rather small, and the optic disc was atrophic.

Two Cases of Infantilism.—Dr. KENNETH KELLIE.—CASE 1: A girl, aged 4 years; weight, 17 lb. 2 oz.; height, $29\frac{1}{2}$ in.; circumference of abdomen at level of umbilicus, 19 in. The parents were healthy, as were two other children in the family. One child had died of wasting (?) and one had been born dead. The child had never been breast-fed, and for the past year had had "anything" to eat. She had measles a year ago. She could not walk, but could stand, and talked and recognised people. On admission to the Belgrave Hospital last August the child weighed 10 lb. 13 oz.; the abdomen was large, $16\frac{1}{2}$ in., and the veins on the surface were very conspicuous. The limbs were extremely wasted. A suspicion of tuberculous peritonitis was entertained, but there was no reaction either to the injection of tuberculin or to von Pirquet's test. The temperature has been usually normal. The stools have been always large and greasy, suggesting that the pancreas was at fault. CASE 2: A boy, aged $3\frac{1}{4}$ years; weight 16 lb.; height 28 in.; circumference of head $16\frac{1}{2}$ in. The patient was a twin, the other having died a year ago. Three other children are healthy, and there was no history of miscarriages. The child could stand when held, but could not walk. He recognised things and played, but could only speak a few words. He had twelve teeth. A localised systolic murmur was audible over the fourth left interspace. The motions were very frequent and more or less foul and slimy.

The PRESIDENT, Dr. PRITCHARD, Dr. CARR, Dr. PORTER PARKINSON, Dr. J. D. ROLLESTON and Dr. LANGMEAD discussed the cases.

Persistent Jaundice.—Dr. KENNETH KELLIE.—The patient was a male infant, aged 5 months, who had been breast-fed entirely, but irregularly. There was one other child, aged 11 years, in the family, and the mother had had no miscarriages. The child had had no rash, but was said to have had a yellow discharge from the nose. Jaundice had been noticed since the fourth day after birth, but had varied slightly in intensity. The motions were colourless and very frequent. The liver could be felt three finger-breadths below the costal margin. The weight had increased 10 oz. during the last month. The diagnosis lay between inherited syphilis and congenital obliteration of the bile-ducts.

Dr. PARKES WEBER thought that the case was typical of obliteration of the bile-ducts.

A Paper on "Splenomegaly with Recurrent Jaundice ending in Hepatic Cirrhosis and Ascites, with Remarks on the Splenomegaly of Inherited Syphilis in Children," was read by Dr. PARKES WEBER (*vide* p. 97), and discussed by Dr. SUTHERLAND and Dr. PORTER PARKINSON.

A Paper on "Ulcerative Stomatitis in Children" was read by Mr. S. F. ROSE, who laid stress on the typical distribution of the lesion on one side of the mouth and the efficacy of potassium chlorate as a means of treatment. The disease occurred for the most part in ill-nourished and neglected children, and was frequently started by one or more loose or septic teeth.

Mr. STEPHENSON, Dr. PORTER PARKINSON and Dr. PARKES WEBER discussed the paper.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Friday, January 13th, 1911.

Familial Pigmentary Dermo-fibromatosis.—Drs. J. D. ROLLESTON and N. S. MACNAUGHTAN showed three cases of incomplete von Recklinghausen's disease. The father, aged 47 years, had a generalised eruption of molluscous tumours; the skin of the abdomen and inner side of the thighs showed a yellow ground-work of pigmentation with punctiform pigmented spots and *café-au-lait* patches. The eldest daughter, aged 13 years, showed punctiform pigment-spots, *café-au-lait* patches, and numerous slightly raised blue spots, *i. e.* young molluscous tumours. There was a nævoid growth on the upper lip which the subsequent operation proved to be a plexiform neuroma. The youngest daughter, aged 5 years, had no molluscum, but numerous punctiform spots and *café-au-lait* patches on the neck and trunk. Since an attack of diphtheria in November, 1910, the molluscum of the elder girl and the pigment-patches of the younger girl had increased in number and size. Microscopical examination of one of the father's nodules and of the eldest daughter's blue spots showed the presence of fibrous tissue, but no nerve-fibres. The two other children, a boy aged 14 years and a boy aged 10 years, had a slight yellowish tinge of skin, but no molluscum nor pigmentation.

ROYAL SOCIETY OF MEDICINE.

NEUROLOGICAL SECTION.

Thursday, January the 19th, 1911.

The President, Dr. J. A. ORMEROD, in the Chair.

Progressive Spinal Muscular Atrophy in Infants and Young Children.—Dr. FREDERICK E. BATTEN read a paper dealing with the widespread progressive muscular atrophy of infants and young children due to a spinal lesion. The paper was based on the clinical and pathological examination of eight cases. These were divided into three groups: (1) A type of case in which progressive muscular weakness occurs during the

first week or months of life, gradually progresses, and terminates in death after a variable period of weeks, months, or years. Sometimes more than one member of the family might be affected. The pathological change found in these cases was a degeneration of the lower motor neuron, the character of the changes depending on the time after the onset of the disease at which death took place. This type corresponded to the cases recorded by Werdnig and Hoffmann. (2) A type of case in which progressive muscular weakness and atrophy begin somewhat later in life, after the child has already walked, and slowly progress till death occurs from respiratory failure or pneumonia. The pathological change found in such a case resembled that found in a "toxic neuritis." (3) A type of case in which progressive muscular weakness and atrophy begin in later life, after the child has already walked, slowly progress, and are attended by a widespread "myelitis" of the spinal cord. Six of the recorded cases are assigned to the first group, one to the second, and one to the third. The literature was then considered. Ten cases belonging to the first group are at present on record with a pathological examination. Two recorded by Werdnig, three by Hoffmann, two by v. Ritter, one by Bruce and Thomson, one by Beever, and one by Armand-Delille and Boudet. Of recorded cases assigned to the Werdnig-Hoffmann group without autopsy, the writer is unwilling to accept those of Senator, Bruns, and Lange. The great difficulty in the diagnosis of these cases from cases of primary myopathy, and especially the type known as "myatonia congenita," is recognised. It is pointed out that in spinal muscular atrophy the paralysis is more marked, and the hypotonia is less marked than in myatonia congenita.

AUTHOR'S ABSTRACT.

THE HARVEIAN SOCIETY.

At a meeting held on January the 26th at the Paddington Green Children's Hospital, Mr. ERNEST LANE, the President, being in the chair, there was an exhibition of cases.

Dr. LEONARD GUTHRIE showed: (1) A girl, aged 7 years, suffering from an exacerbation of the symptoms of chronic hydrocephalus which had originated two years previously following measles. (2) A case of hydrocephalus with pseudo-glioma following posterior basic meningitis. (3) Congenital absence of the lower half of the pectoralis major.

Dr. G. A. SUTHERLAND: (1) A case of congenital cerebellar diplegia. (2) A case of pulmonary fibrosis in a child aged 8 years, originating in an attack of pneumonia and measles at one year.

Dr. F. S. LANGMEAD: (1) Urticaria pigmentosa following measles in a child aged 12 years. (2) Myositis fibrosa with sclerodermia in an infant aged 12 months. (3) An infant with congenital heart disease.

Dr. REGINALD MILLER: (1) Raynaud's disease in a girl aged 10 years. (2) Acute polio-encephalo-myelitis, appearing at the ninth week of life and involving the left facial nucleus, the right shoulder muscles and the oblique muscles of the right side of the abdominal wall. The child was the second delivered of twins.

Mr. ARTHUR EDMUNDS: (1) Hypospadias after operation. (2) Cyst of the humerus after operation.

Dr. H. de G. TURTLE: Pyloric obstruction in an infant showing gastric peristalsis.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL
SOCIETY.

December the 16th, 1910.

Massive Abdominal Tuberculosis, under Tuberculin Treatment.—Dr. E. F. TREVELYAN.—Boy, aged 7 years, who was in Armley Consumptive Hospital from October, 1909, to April, 1910, during the whole of which time he was given tuberculin by the mouth. Recently he had received tuberculin injections. The large tuberculous masses present in the abdomen a year ago, when he was shown before the Society, had become much smaller. His health was now very satisfactory.

Anomalous Epilepsy.—Dr. E. F. TREVELYAN.—Girl, aged 14 years, with anomalous epileptic manifestations, in which she mounted up on to the table, etc. She was apparently unconscious during the attack, and in one of them the urine was passed involuntarily.

Destructive Habits in a Boy after a Head Injury (? Anomalous Epilepsy).—Dr. E. F. TREVELYAN.—Boy, aged 5 years. Eighteen months ago fall on the head, followed by vomiting. Since then destructive habits, *e g.* putting things into fire, apparently not always conscious of what he was doing (? anomalous epilepsy). Recent improvement.

Congenital Pyloric Stenosis.—Mr. B. G. A. MOYNIHAN.—Girl, aged 8 years. Quite well after birth up to the age of nine months, when she was weaned. Soon after this she began to vomit after food, and had vomited after every meal since then. When given milk in teaspoonful doses she retained several ounces, but within a few minutes of the completion of a meal milk began to regurgitate; solid food had never been retained. On examination, a distended and visibly contracting stomach was seen. Operation, October the 14th, 1910: A thickened and hypertrophied pyloric antrum and pylorus was found. The stomach was both dilated and hypertrophied. Posterior gastro-enterostomy; vomiting had not occurred since the operation.

(?) Congenital Absence of Circular Fibres of the Iris in a Child, aged 6 years.—Mr. MICHAEL TEALE.—Slight double ptosis. No reaction of pupils to light. Reaction to atropine and eserine doubtful. Nystagmus since birth. Refraction normal. Vision probably about Jaeger 10. Severe headache, without vomiting, every month or two. No evidence of congenital syphilis in patient or in family history. Fundi normal.

Infantile Hemiplegia, with Residual Facial Palsy.—Dr. W. H. MAXWELL TELLING.—Girl, aged 2 years. On October the 1st sudden attack of partial paralysis, left side, without unconsciousness. This lasted for a week, then the paresis of the arm and leg disappeared completely at the end of a fortnight, leaving paralysis of the left side of the face, which was still present, though improving slightly.

Infantile Paralysis, with Paralysis of Abdominal Muscles.—Dr. MAXWELL TELLING.—Girl, aged 8½ years. Paralysis in July. Onset

taken for rheumatism. Paralysis of abdominal muscles well seen when the child attempted to sit up. The left leg was also affected. There was some wasting of all the limbs. The child was improving under massage.

Arthritis of Unusual Type in a Child.—Dr. MAXWELL TELLING.—Girl, aged 6 years. Fourteen weeks ago stiffness in left knee; ten weeks ago left knee noticed to be swelling, but was not painful. Then swelling of left ankle, and subsequently of right knee and ankle, with a certain amount of pain in and about the joints. The knees and ankles, especially the former, had a somewhat doughy, swollen appearance; some thickening of the capsule. There was no pain. There was some subluxation of the knee-joint. *Comments:* The patient had a delicate, rheumatic aspect, but there had been no ordinary symptoms of rheumatism in the case or in the family, and the thickened appearance of the joints and comparative absence of pain were not characteristic of rheumatism. One joint explored; scarcely any fluid discovered. Bacteriological examination negative.

Philadelphia Pediatric Society.

Tuesday, January the 10th, 1911, CHARLES A. FIFE, M.D., President.

Diphtheria.—Dr. COURTLAND Y. WHITE gave an extensive *resumé* of the methods employed by the Laboratory of the Board of Health of the City of Philadelphia in the investigation of diphtheria.

Dr. A. A. CAIRNS read a statistical report upon diphtheria in Philadelphia during 1909 and 1910, from the office of the Bureau of Health. He said that 3878 cases were reported during 1909, and 3804 cases during 1910. Of these, 512, or 13.2 per cent., died in 1909, and 492, or 12.93 per cent., in 1910. In 1909, 2329 cases were removed to the Philadelphia Hospital for contagious diseases (60 per cent.); in 1910, 2235 (58.75 per cent.). Of these, 243 (10.43 per cent.) died in 1909, and 203 (9.08 per cent.) in 1910. After the removal of cases to the Philadelphia Hospital for contagious diseases, when no immunisation was done, 43 (1.85 per cent.) cases occurred secondarily in 1909; 87 (3.08 per cent.) secondary cases in 1910: 1320 cases were treated at home during 1909; 1368 during 1910. Where antitoxin was used in the treatment of cases at home, 172, or 13.03 per cent., died in 1909; 203, or 14.83 per cent., in 1910. In 1909, 77 secondary cases occurred among cases treated at home with antitoxin, but where no immunisation was done; in 1910, 60, or 4.38 per cent. In 1909, 229 cases were treated at home without antitoxin, 97, or 42.35 per cent., of whom died; in 1910, 201, 86, or 42.78 per cent., dying. Among these cases treated at home, without antitoxin or immunisation, 63 secondary cases, or 27.51 per cent., occurred in 1909; 45, or 22.38 per cent., in 1910. The days of death of cases which died when no antitoxin had been given were as follows: in 1909, 1 case on the first day of illness, 22 on the second, 27 on the third, 11 on the fourth; 7 on the fifth, 6 on the sixth, 7 on the seventh, 3 on the eighth, ninth, tenth, 2 on the eleventh, 1 on the twelfth, and four on the thirteenth day. During 1910, 7 died on the first day, 16 on the second, 21 on the third, 15 on the fourth, 5 on the fifth, 6 on the sixth, 2 on the seventh, eighth,

ninth, 4 on the tenth, 1 on the thirteenth, 3 on the fifteenth, and 1 on the nineteenth and thirty-second days. The following table shows the diphtheria statistics since 1888. The free dispensing of antitoxin began in 1896.

Year.	Cases reported.	Deaths.	Case death-rate.
1888	1170	623	53.25
1889	1455	727	49.97
1890	1820	943	51.81
1891	3251	1362	41.89
1892	5051	1707	33.79
1893	3471	1159	33.39
1894	3608	1396	38.69
1895	3351	1020	30.4
1896	3191	862	27.0
1897	5405	1231	22.7
1898	4415	898	22.6
1899	4161	849	20.4
1900	4995	898	20.0
1901	3578	525	14.6
1902	2444	436	17.7
1903	3043	521	17.1
1904	3456	542	15.6
1905	3238	452	13.9
1906	3707	546	14.7
1907	3840	509	13.25
1908	3863	498	12.89
1909	3876	512	13.89
1910	3804	492	12.93

Dr. THEODORE LE BOUTILLIER said that they had all enjoyed hearing of the methods employed by the Board of Health. He had gone down to the laboratory, and his visit soon made plain to him what excellent work was being done there. Every physician who took the trouble to visit the laboratory could not help being impressed with the thoroughness with which the work was done.

Dr. SAMUEL McC. HAMILL said that he regretted that the speakers had not thrown some light upon the handling of cases of nasal diphtheria. In his experience the bacteriological study of nasal diphtheria had been most unsatisfactory. In an epidemic occurring in the infant ward of St. Vincent's Home the cases were cultured, and only about one third proved positive. The remaining cases were cultured daily, and when positive, cases were removed from the ward. In one case which was clinically diphtheria, ten examinations were made before a positive result was obtained. There was no question about the virulence of the organisms, inasmuch as several cases of pharyngeal diphtheria occurred among nurses and attendants working in this ward. Dr. White's statement regarding the frequency with which the first culture in pharyngeal cases proved positive is entirely in accord with Dr. Hamill's experience. He recalled a case occurring a few years ago in which six cultures were made before positive findings were obtained. Thereafter, positive cultures resulted from each inoculation.

Dr. E. E. GRAHAM said that the physicians of Philadelphia always relied on the laboratory of the Board of Health, believing that accurate work was done there. He asked why the death-rate from diphtheria in the larger cities in the United States was greater than in many of the larger European

cities. Dr. Cairns had just told them that the death-rate in New York was 38, in Philadelphia 32, in Boston 22 per 100,000, while in Berlin it was 15 and in Paris only 6 per 100,000. He always thought that antitoxin was used as freely in the United States as it was in Europe. The death-rate from diphtheria at the Municipal Hospital during the past two years was, according to Dr. Cairns, 10.43 per cent. in 1909 and 9.8 per cent. in 1910. During the same periods the death-rate for cases treated at home with antitoxin was 13.3 per cent. and 14.83 per cent. This certainly spoke volumes for not only the early, but the repeated administration of antitoxin. The cases treated at the Municipal Hospital were the worst cases, and yet, under immediate and repeated doses of antitoxin, they showed a smaller mortality than the cases treated at home, though they were also given antitoxin. The mortality during 1909 and 1910 of patients treated at home without antitoxin was, according to Dr. Cairns, over 42 per cent. This mortality-rate was interesting for a number of reasons. First, there was no doubt that this was a much greater mortality-rate than actually existed, and this discrepancy could be explained only by the fact that many cases of diphtheria were so mild that the physician did not report them, the neglect to report them being due to carelessness, or the wish to protect the family from the inconvenience of having the house placarded. The case that was so dangerously ill that it might die must be reported, hence the unnatural death-rate of 42 per cent. Many of those cases that received no antitoxin and ended fatally lived so many days after the onset of the disease that antitoxin would almost surely have saved their lives. Some of the other statistics reported by Dr. Cairns were also interesting. Taking the years before 1896, the death-rate was always 25 per cent. or over. Since 1896, when antitoxin was used for the first time by the Board of Health, the mortality had been invariably 22 per cent. or lower, and since 1901 had averaged about 15 per cent. These figures, extending over a period of a number of years, should convince the most sceptical of the most positive curative influence that free antitoxin exerted.

Dr. ROBERT S. MCCOMBS said that cases of diphtheria could easily be spread among children waiting their turn in the various hospital dispensaries.

Dr. HARRY LOWENBURG spoke of a case in which he sent a culture in late Thursday night. The police failed to send it to the laboratory until Friday, too late for the day's examination. It was examined Saturday morning, and Dr. Lowenburg only received his post-card telling that it was positive on Monday morning. His report of the case, therefore, only reached the authorities on Tuesday. He objected to the possibility of such delays occurring. He had given antitoxin at once and the child was practically well when the case was reported. He also stated that he always expected and invariably encountered an antitoxin rash ten days after administering the antitoxin. He believed that the city authorities ought to provide antitoxin globulins free from serum in order to avoid rashes.

Dr. WHITE added that even the laboratory man might make mistakes. So many germs occurred in the nose which resembled diphtheria bacilli that mistakes must occur. Delays in bringing in cultures rarely happened. Dr. White hoped that the Department of Health would soon be able to get up concentrated antitoxin in syringe form, ready for anyone to administer. Antitoxin rashes had been very rare this winter. As the pseudo-diphtheria bacilli could not be distinguished from true diphtheria bacilli by culture alone the germ must be isolated, inoculated on special agar, and later into a guinea-pig.

Dr. CAIRNS said that his medical inspectors were ready to give antitoxin, immunise and urge the use of antitoxin in all cases. As delays occurred when the attending physician asked the medical inspector to give the antitoxin, Dr. Cairns advocated preparing the antitoxin in syringe form. The Board of Health would only give one injection of antitoxin, as Dr. Cairns would not allow the medical inspectors to give a second dose, since that would be treating the case and encouraging patients to remain at home, thus defeating the object for which the Philadelphia Hospital for Contagious Diseases was erected. When the medical inspector had given the first dose of antitoxin, the case remaining at home, there was ample time for the attending physician to prepare himself for administering further doses of antitoxin if the cases needed them. It was never necessary to await a positive culture before reporting clinical cases of diphtheria or giving antitoxin.

The PRESIDENT, Dr. FIFE, then read the Annual Address.

Société de Pédiatrie, Paris.

December the 20th, 1910 (Bulletin No. 9).

Dystrophies in connection with Lesions of the Suprarenal Capsules; Hirsuties and Progeria.—M. APERT read a communication on this subject arising out of M. Variot's case of progeria shown at a previous meeting.

As the result of thirty-five autopsies he asserted the existence of a special syndrome dependent on changes in the cortical substance of the suprarenal capsules. This was entirely different from Addison's disease, which was due to changes in the medullary and nervous portions of the capsules or in the contiguous sympathetic ganglia. Two opposite sets of symptoms existed, one in connection with hyperplastic changes in the cortical substance (hyperepinephria), the other, the inverse, in connection with atrophic or sclerosing changes in the same cortical substance (hypoepinephria). In the former there were three chief elements: (1) excess of development of the hair; (2) of the adipose tissue; (3) disturbance of the genital functions. In the latter were observed scanty development of the hair, insufficiency of fat and of the body development. M. Variot's case came under this category. Of hyperepinephria there were five types: (a) Of the period of sexual activity, where there was arrest of menstruation, adiposity, and growth of hair on the skin. (b) Of the pre-puberty period, in which there was exaggerated bodily development, precocious signs of puberty, adiposity, hypertrichosis, and sometimes hypertrophy of the clitoris. (c) Of the period of sexual decline, in which there were uterine hæmorrhages and adiposity but no hypertrichosis. (d) Of the embryonic period, in which the lesion had commenced before birth and a condition of hermaphroditism resulted of a special type, *i. e.* internal female organs joined to external male organs. The child at birth had the appearance of a cryptorchid, with a well-formed penis, sometimes a slight degree of hypospadias, and an empty but undivided scrotum. Later on he developed on the masculine type and was considered to be a man, but the autopsies showed that in these cases there was a uterus,

two Fallopian tubes and broad ligaments; the cervix uteri opened into a vagina which was narrowed at its lower part, to be inserted at the level of the neck of the bladder into a well-developed prostate, and opened into the prostatic portion of the urethra at the level of the veru montanum by a fine orifice. The prostate and urethra were of a male type. The genital gland had usually the structure of the ovary; in one case only was it testicle. (*e*) Of the foetal period, in which there was an abnormal sexual morphology, large clitoris, atrophic uterus and ovaries, premature hypertrichosis. Of hypopinephria the case shown by M. Variot and also Gilford's case were typical examples, and in such cases adrenalin, which was a product of the medullary part of the gland, was useless; what was wanted was the capsule itself given in the form of powder or total extract.

Congenital Elevation of the Scapula.—M. APERT showed a boy, aged 15 years, well developed, whose right scapula was lifted and tilted. (A woodcut appears in the 'Bulletin.') The condition was doubtless congenital, being too marked to be the consequence of faulty position.

Sublingual Syphiloma in a Girl, aged 6 years.—MM. COMBY and SCHREIBER.—The lesion of the tongue was of the nature of a lenticular glossitis with sclerosis.

Thomsen's Disease in a Girl, aged 10 years.—MM. BABONNEIX and LEMAIRE showed this case, which at first sight seemed a myopathy of abnormal type. The muscular pseudo-hypertrophy with characteristic localisation resembled that of Duchenne, but persistent contracture after cessation of effort and the electrical reactions showed that it was a typical case of Thomsen's disease. This disease was rare in children, and this child seemed the only one in the family attacked by it.

Clinical Study of Hypoalimentation in Nurslings.—M. PROSPER MERKLEN read an interesting paper on this subject, which was first brought into prominence by M. Variot. Its chief symptoms were—(*a*) crying, which began as soon as the child was taken from the breast; suction movements of the lips, sucking the fingers; (*b*) digestive disturbance, consisting of constipation, changes in the stools, and vomiting; (*c*) diminution in the quantity of urine; (*d*) bradyphagia; (*e*) wasting, etc. The ætiology showed the danger of prescribing feeds of a definite duration at definite intervals without at the same time insisting on weighing the child. When such infants were brought to a doctor it was because they did not thrive, because they cried and were restless and presented digestive disturbances.

The Rôle of the Streptococcus in the Ætiology of Acute Colitis.—M. ROUX read a paper on this subject, in which he discussed the probability of the infection originating in the naso-pharynx. VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Repeated attacks of infectious diseases ('*Wien. klin. Woch.*,' 1909, p. 1596).—**J. Widowitz** has paid special attention to this question during the last thirteen years. Among 323 cases of scarlet fever he had found only two children who had a second attack. Among 1100 cases of measles observed since 1897, *i. e.* since the recognition of Koplik's spots, he had never seen a second attack. Among 363 cases of rubella only one case had a second attack. He did not meet with a single instance of a second attack among 524 cases of varicella and 395 of mumps. Among 558 cases of whooping-cough in children there was no instance of a second attack, but seven adults, aged from 35 to 81 years, who had had whooping-cough in childhood, were reinfected by their children or grandchildren. No lasting immunity followed an attack of diphtheria, strepto- or staphylococcal infection such as follicular tonsillitis or rheumatism, erysipelas or influenza.

J. D. ROLLESTON.

Infectious diseases in negroes ('*Journ. Amer. Med. Assoc.*,' 1910, II, p. 1246).—**H. M. Folkes**.—Negroes are relatively more immune than whites to malaria, typhoid fever, intestinal diseases, tonsillitis, mumps, influenza, and yellow fever. With an experience of nearly twenty years Folkes cannot recall a case of scarlet fever, diphtheria, mumps or tonsillitis in pure-blooded negroes. On the other hand mulattoes, octaroons and quadroons are much more susceptible to the infectious diseases, especially syphilis and gonorrhœa. Negroes of all shades are extremely susceptible to tuberculosis and also to measles.

J. D. ROLLESTON.

Influence of acute disease on the milk secretion ('*Rev. d'hyg. et de m'éd. Inf.*,' 1910, p. 376).—**F. Marre** analysed the breast-milk of women suffering from scarlet fever, measles, and influenza, and found that the effect of acute fevers on the milk secretion was to diminish the water and lactose and increase the butter casein and salts. He agrees with Lemarquand (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1907, p. 274) and Brelet (*ibid.*, 1910, p. 274) in recommending the mother in infections of short duration to continue lactation, supplemented if necessary by artificial feeding.

J. D. ROLLESTON.

Acute infectious disease as a cause of hemiplegia in children ('*Amer. Journ. Obstet. and Dis. of Women and Children*,' 1910, p. 566—*Chicago Ped. Soc.*).—**Mary Johnstone** records two cases: (1) A girl, aged 8 years, had a severe pneumococcal infection of the throat, lungs, and meninges, with crisis on the eighth day. Severe vomiting suddenly occurred, followed by convulsions and left hemiplegia. Five years later the child was quite well without any trace of paralysis. (2) A child, aged 7 years, had an attack of erysipelas. Forty years later the patient still showed the results of a right hemiplegia, and had epileptic attacks. No other cases of hemiplegia following erysipelas could be found in literature.

J. D. ROLLESTON.

The incubation period of measles ('*La Clin. Infant.*,' October, 1910, No. 19, p. 582).—**M. Sébilleau**, from his observations during a recent epidemic,

finds that while the incubation period is often characterised by the absence of any apparent symptoms, at times there may be noticed coated tongue, rarely vomiting, and colic followed by undigested stools. Other children have temporary catarrhal symptoms, which disappear only to reappear at the stage of invasion. Another symptom which the author found during the incubation stage was sudden enlargement of the glands of the neck.

VINCENT DICKINSON.

Prodromal icterus in measles (*Allg. Wien. med. Zeit.*, April 12, 1910, p. 163).—**Friedjung** relates in detail the history of a child, aged 7 years. Infection probably occurred at the end of January. Several days later there were vomiting, cough, abdominal pain, constipation, and anorexia. Seven days later (February 7) conjunctivitis, pharyngitis, slight temperature and jaundice; 11th, typical rash of measles. No Koplik spots throughout. Simple catarrhal jaundice must be excluded. The writer thinks that the first symptoms of measles may sometimes appear in the intestinal tract, and, as in this case, lead to jaundice.

M. D. EDER.

Spasm of the glottis in the broncho-pneumonia of measles (*Gaz. des Hôp.*, 1910, p. 1479).—**Variot and Pironneau**.—A girl, aged 4½ years, was admitted to hospital in the prodromal stage of measles on June 23; 26th, measles rash; 28th, broncho-pneumonia; 30th, paroxysmal cough, loss of voice, supra- and infra-sternal recession. Fauces clean. Throat cultures negative. The symptoms were relieved by intubation after an injection of ½ cgm. of morphia had produced no effect, but death took place on July 4 owing to the advance of the broncho-pneumonia, without any more attacks of glottic spasm. At the necropsy the naso-pharynx was found to be full of pus, but the larynx was quite normal, and contained no diphtheria bacilli. The trachea and large bronchi were full of pus, and there was broncho-pneumonia of both lungs, especially at the bases. The other organs were normal with the exception of the congested liver. The spasm of the glottis was probably due to reflex irritation associated with the pulmonary lesions, a syndrome which Variot described in 1898 in his work on diphtheria.

J. D. ROLLESTON.

Nasal diphtheria in measles (*Thèse de Bordeaux*, 1909).—**E. Dusillol**.—This thesis contains the histories of forty cases, twenty of which are from original observations made in Mousous' service at the Hôpital des Enfants at Bordeaux. During 1909 nasal diphtheria in measles was unusually frequent at this hospital. The nasal localisation of diphtheria is favoured by—(1) the nasal catarrh, which is often intense in measles; (2) all previous local sources of irritation. The nasal diphtheria may be an isolated phenomenon, or secondary to some other diphtheritic manifestation. Clinically it may follow either a mild or a malignant course. It is liable to escape notice at first from being mistaken for the ordinary nasal discharge of measles. If diagnosed early and promptly treated, the mild forms as a rule tend to recovery and rarely become chronic. The malignant form has always a grave prognosis, especially in young children.

J. D. ROLLESTON.

Diphtheria in a new-born child (*Deut. med. Wochens.*, 1910, p. 1813).—**G. Röthler**.—A male child when five days old had a discharge from the right nostril, and in the course of the next six days a serous discharge

from both eyes and from the left nostril. On the twelfth day attacks of dyspnoea developed, and membrane was seen on the palate and pharynx. Tracheotomy was followed by relief, but the next day the child had more attacks of dyspnoea. The stools contained blood, and there was a rapid loss of weight. Membrane finally appeared in the lower conjunctival fornix of each eye. Klebs-Loeffler bacilli were found in the eyes, nose, and trachea. Death occurred on the fourteenth day of life. Necropsy: Diphtheria of pharynx and oesophagus. No membrane in larynx and trachea. Catarrhal gastritis and enteritis with hæmorrhages in gastric and intestinal mucosa. A few days after the child's death the nurse developed faucial diphtheria. Examination of the mother's vaginal secretion showed only the usual saprophytes, but diphtheria bacilli were found in the urethra. The mother had suffered from leucorrhœa for four months before delivery, and had probably infected the child during birth.

J. D. ROLLESTON.

Abdominal diphtheria (*Journ. of Amer. Med. Assoc.*, January 21, 1911, p. 199).—**Everall** reports the case of a boy, aged 6 years, who was the subject of naso-pharyngeal diphtheria. On the seventeenth day he was apparently convalescent; pulse 96, temperature 99.2° F. On that day he vomited twice, but retained one ounce of castor oil. The vomiting recurred and became almost constant; pulse 158–170, temperature 103° to 104.5° F. The abdomen was distended and tender, especially below the umbilicus. An enema brought away flatus only. Alarming symptoms of respiratory and circulatory failure followed. Two doses of antitoxin were given, causing a rapid improvement in the symptoms. Two days later, following a dose of calomel and an enema, the patient passed a large amount of foul and bloody fæces, containing a necrotic membrane three inches long, and having the appearance of an intestinal cast. The boy made a slow recovery, developing an extensive paralysis and persistent high pulse-rate with obstinate constipation.

T. R. WHIPHAM.

Report of an epidemic of diphtheria in a convalescent home for children (*Cleveland Med. Journ.*, 1910, p. 864).—**R. G. Perkins** and **A. F. Furrer** investigated an epidemic of diphtheria in a convalescent home containing twenty-eight children and twelve adults. In six months eighteen cases occurred, consisting of three adults and fifteen children, a percentage of 44 of the population. Three cases occurred in December and January. Prophylactic doses of antitoxin were administered to all the children. Six weeks later two more cases developed, and then, after an interval of four weeks, another case. Eight "carrier" cases were then discovered and suspicious organisms found in throats of a dog and cat. Antitoxin was administered to all contacts, but in some cases diphtheria bacilli persisted for months. The organism found in dogs produced no toxin in culture. No symptoms due to anaphylaxis are recorded. There were no fatal cases. The authors insist on the importance of prophylactic antitoxin.

CHRISTOPHER ROLLESTON.

Diphtheria at the Hôpital Trousseau, Paris (*Thèses de Paris*, 1909 –10, No. 464).—**E. L. Gautier**.—During 1909, 426 children were admitted to Netter's diphtheria block at this hospital; 386 were found to have diphtheria, the rest were suffering from other diseases. Seventy-six died—a mortality of 19.68 per cent.; after subtracting eighteen who died within

twenty-four hours of admission this figure is reduced to 15·76 per cent. This high mortality, which considerably exceeds that recorded at this hospital in 1905 (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1907, p. 462) is attributed to the frequency of severe angina, which was met with in 31·53 per cent. of the faucial cases. Diphtheria morbidity was relatively low in the first year of life, being represented by only 2·84 per cent. of the total admissions, rising rapidly to 14·76 per cent. in the second year, and reaching the maximum, 15·28, in the third. During the next three years it gradually declines and then rapidly falls. The mortality is very high in the first years of life—63·63 per cent. in the first, 40·35 in the second, and 25·92 in the third; after the eleventh year it was *nil*. Albuminuria was noted in 16·83 per cent., and paralysis in 5·95 per cent., with a mortality of 17·39 per cent. The percentage of serum rashes in 165 cases treated with prophylactic doses of calcium chloride was 4·72 as compared with 24·06 in 170 cases not so treated. As in previous years, favourable results followed the employment of collargol and adrenalin.

J. D. ROLLESTON.

Paralysis following relapses and second attacks of diphtheria (*Journ. Nerv. and Ment. Dis.*, xxxvii, 1910, p. 164).—J. D. Rolleston. — Among 1600 consecutive cases of diphtheria twenty-seven, or 1·6 per cent., had relapses which were separated from the initial angina by intervals varying from three to fourteen weeks. Two of the twenty-seven had palatal and ocular palsies after the primary attack, but none showed any paralysis after the relapse. Another thirty-six cases had second attacks of diphtheria between which and the first attack were periods ranging from three months to fourteen years. One case had paralysis after the first attack and another three after their second attack. In only one patient were both attacks followed by paralysis. The first illness was one of mild diphtheria, for which no antitoxin was given and only local treatment employed. Generalised paralysis developed in convalescence, necessitating detention in hospital for four months. Six years later the patient was admitted with a more severe angina than on the first occasion on the third day of disease, and received 12,000 units of antitoxin subcutaneously. Ciliary palsy developed on the thirty-second day, and lasted till the forty-fifth. No other paralysis occurred, and the knee- and ankle-jerks remained active throughout the patient's forty-seven days' stay in hospital. Only five other cases of second attacks of diphtheritic paralysis are mentioned in literature, but in only one, described by Coulter, was the paralysis generalised on both occasions. The absence of paralysis after relapses and their occasional occurrence after second attacks are attributed to the invariably mild character of the former due to the immunity conferred by the recent attack and the initial dose of antitoxin (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, iv, 1907, p. 332).

AUTHOR'S ABSTRACT.

Babinski's sign in diphtheria (*Rev. of Neurol. and Psych.*, viii, 1910, p. 404).—J. D. Rolleston, in the course of four years, investigated the plantar reflex in 877 cases of diphtheria, and thus summarises his conclusions: (1) Babinski's sign was found in a considerable percentage (19·6 per cent.) of all cases of diphtheria, the character of the response being rapid, deliberate, or intermediate in character. (2) The extensor response in diphtheria is not confined to infants, but may be obtained, though with decreasing frequency and duration, especially after the eighth year until adult life. (3) It is essentially a phenomenon of the acute stage, in most

cases being replaced by flexion in convalescence. Transition stages often exist in which various forms of response may be obtained. (4) Babinski's sign is not pathognomonic of diphtheria among the acute infections, since it occurs in typhoid fever, scarlatina, lobar pneumonia, and probably other acute diseases; but its greater frequency in diphtheria than in non-diphtheritic angina accords the sign a certain diagnostic value. (5) It is more frequent and persistent in the severe than in the mild forms of diphtheria, as is shown by the character of the angina, the higher mortality and greater frequency of paralysis and albuminuria among the cases in which it occurs. Its presence has, therefore, a certain prognostic value. (6) It is not associated with any special condition of the tendon-jerks, and is never accompanied by ankle clonus. (7) It is probably due to a transitory perturbation of the pyramidal system by the circulating toxins, comparable to the slight degree of meningeal reaction which is a frequent occurrence in acute infections.

AUTHOR'S ABSTRACT.

Dangers of decoction of poppy-heads in infants (*L'Echo M'd. du Nord.*, July, 1910).—**Deléarde** and **Boon** relate that it is very customary among the lower classes in France to give to infants who are suffering from indigestion due to improper feeding a decoction of poppy-heads to soothe the pain, frequently with a fatal result. The amount of morphine contained in the different varieties of poppy varies from 15 to 21 per cent. of the opium obtained from them, but none of the varieties are innocuous. The authors relate three cases of infants who died from this treatment with analyses of the viscera, most of which contained appreciable quantities of morphia. They recommend that the promiscuous sale of these remedies by grocers, etc., should be stopped by law. J. PORTER PARKINSON.

Alcoholism and childhood (*Brit. Journ. of Inebriety*, 1910, p. 67).—**G. Basil Price** quotes many statistics of interest in connection with this subject. In one London school of 300 children under the age of 8 years, 11·8 per cent. were said to drink alcohol daily (Makereth). The death-rate in children of under two years old born of female inebriates is two and a half times as great as in the offspring of sober mothers (Sullivan). Demme compared the children of ten drunkards and of ten sober people. Of the former there were fifty-seven, of whom nine were entirely normal; of the latter there were sixty-one, of whom fifty were entirely normal. The proportion of "dullards" in the children of drinking parents is found to be 53 per cent., in those of abstaining parents 10 per cent. (MacNicholl). Only 10 per cent. of women whose fathers were drunkards were able to suckle their children, while 91·5 per cent. of those whose fathers were not habitual consumers of alcohol were able to nurse their offspring. Dr. Templeman is quoted as stating that of 461 cases of overlying, 47 per cent. occurred between Saturday night and Sunday morning. The author suggests the term "alcoholic abiotrophy" to such cases of wasting developing in infants, apparently healthy at birth, as he regards as due to lack of vitality from maternal alcoholism.

REGINALD MILLER.

Lead poisoning in a child (*Berlin. klin. Wochens.*, 1910, p. 1820).—**Hirsch**.—A girl, aged 2 years, was brought to hospital for vomiting of six weeks' duration. The abdomen was retracted. On inquiry it was learnt that the child had been in the habit of gnawing at its recently painted

bedstead. The pulse was not of high tension, and there was no blue line on the gums. Death took place five days after admission. Lead was found in the paint of the bedstead and in the child's urine and fæces. The necropsy showed fatty degeneration of the myocardium, liver and renal epithelium, and pneumonia.

J. D. ROLLESTON.

The plantar reflex in infancy and childhood (*Arch. of Pediat.*, August, 1910, p. 586).—E. C. Fleischner compares the normal plantar reflex in adults and in infants and the Babinski phenomenon, as shown in the following table:

	Adult.	Infantile.	Babinski.
Movement	Quick	Deliberate	Quick.
Muscles first to contract with a minimal stimulation	Tensor vaginæ femoris	Extensor proprius hallucis	Extensor of toes.
Position of toes	Flexion, adduction	Extension, abduction	Extension, abduction.
Obtained more easily by stimulating	Inner part of the sole	Outer part of the sole	—
Movement of ankle	Dorsiflexion, inversion; both conspicuous	Dorsiflexion, inversion; both conspicuous	Dorsiflexion, eversion; both conspicuous.

The author concludes: (1) The most valuable result can be obtained on single stimulation. Repeated stimuli disturb the child and render the result unsatisfactory. (2) Babies should have warm feet for a satisfactory result. (3) In eliciting the Babinski phenomenon the lightest stimulation should be employed and on the outer side of the plantar surface. (4) Of children who could not stand, 85 per cent. under one year of age and only 50 per cent. over this age showed the infantile reflex. (5) Of children who could stand, but not walk, 75 per cent. showed the mixed infantile and adult phenomenon, 20 per cent. the infantile phenomenon, and in 5 per cent. the result was variable. Of children who could walk, 55 per cent. showed the adult reflex, 40 per cent. the mixed reflex, and in 5 per cent. the infantile reflex. (6) The Babinski phenomenon is practically of no value in infancy and childhood when the children cannot walk, and is then only of value if one is cognisant of the reflex present before the diseased process began.

JAMES E. H. SAWYER (Birmingham).

Surgery.

Results in congenital dislocation of the hip (*Med. Record*, 1910, 1, p. 1069).—E. H. Ochsner gives the age-limits at which it is safe to perform reduction of congenital dislocation of the hip by the bloodless method as six years in single and eight in bilateral cases. He does not think the open operation justifiable in cases of double dislocation. He had obtained 71 per cent. of successes in cases he had dealt with that were within the mentioned age-limits. He applied his plaster cases and kept them on for a year with only one renewal.

DUNCAN C. L. FITZWILLIAMS.

Congenital dislocation of the shoulder-joint (*Journ. of Amer. Med. Assoc.*, December 24, 1910, p. 2213).—Huntley reports the case of a young

man, who has always been able by raising the arms above the head to produce a complete dislocation of the head of the humerus in a downward and outward direction without any discomfort. A skiagram shows the great flexibility of the bony protection to the shoulder-joint.

T. R. WHIPHAM.

Congenital absence of the tibia (*Amer. Journ. of Orthop. Surg.*, November, 1910. *Abstr. Journ. A.M.A.*).—**Meyers** operated upon a boy in 1905 for congenital absence of the tibia. The head of the fibula was transplanted, and an arthrodesis was performed at the ankle-joint with an excellent result. The shortening is now 2 in., of which three fourths is in the femur. The affected calf is $\frac{3}{4}$ in. smaller than the other, and the foot is flexed at 135° . There is no hyperextension and no rotation possible at the knee. The boy can extend the leg to 165° strongly and flex it to 90° . Ankylosis at the ankle is firm.

T. R. WHIPHAM.

The Nebraska Orthopædic Hospital (*Western Med. Rev.*, 1910, p. 625).—**Lord**.—The author has prepared a statistical table of the 406 cases treated at the hospital and reserves his comments for the points of special interest. The treatment adopted in a case of diplegia accompanied by sexual depravity is certainly startling. However desirable, the fact of removing the ovaries and tubes, clitoris and vaginal mucosa of this patient without consulting her "ignorant parents" would lead to a great outcry in this country. Three of the eleven cases of Pott's disease reported were treated by forcible extension under an anæsthetic to overcome the kyphosis, with good results. The feature of the treatment of tuberculous hip is the length of time, two and a half years being the average period the child is kept in plaster from the ninth rib to the foot. Numerous photographs of successful cases are shown. The length of time over which the patients are treated together with the establishment of an industrial training school will do much to overcome the difficulties that orthopædic surgeons have to contend with.

RUPERT FARRANT.

Convulsions after orthopædic operations (*Deutsch. med. Wochens.*, November 17, 1910. *Abst. Journ. A.M.A.*).—**Codivilla** describes several cases in which convulsions were a severe complication of orthopædic operations. He thinks that they are the result of traction on the nerve-terminals by the extension applied to complete the operative correction of the deformity in question. The excessive traction on the soft parts and nerves of the hip affects by reflex action the central nervous system, resulting in a condition which leads to the outbreak of epileptic convulsions. Neri has confirmed this by experiments on animals, especially by continuous traction on the sciatic nerve. Children and adults with a predisposition to nervous disturbances are particularly liable to be affected. The main point in treatment of the attack is to relieve the traction on the soft parts. The author advises a preliminary course of bromide for epileptics and patients inclined to be nervous and the application of extension cautiously and gradually. The convulsions did not develop until several days after the operation, and were preceded by headache, restlessness at night, sleeplessness, and occasional painful spasms in the limbs with a tendency to delirium, especially at night. The pulse was slow and tense, the pupils were dilated and sometimes unequal, while the reaction to light was sluggish. There may be also abdominal pain and difficulty in micturition. This prodromal stage may last for hours or

days, and may subside without the development of actual convulsions. The convulsions are slight at first as a rule, but gradually become worse, until the spasms are practically continuous. During the interval the patient may regain consciousness, but generally there is more or less apathy or stupor. The convulsions resemble an epileptic seizure in every particular. Schanz attributes them to fat embolism, but there are numerous arguments against this view.

T. R. WHIPHAM.

A case of hip-joint disease ('*Med. Record*,' 1910, 1, p. 707).—**Professor Wyeth**, of New York, reports the following excellent recovery after hip-joint disease. A boy, aged 6 years, developed symptoms of tuberculosis of the left hip, and was treated with extension and a long straight splint for a period of three years, at the end of which time the use of the splint was discontinued. At the age of fourteen the boy won the second prize in a junior Marathon race over a course of five miles, in which there were twenty starters.

DUNCAN C. L. FITZWILLIAMS.

New technique for cleft-palate operations ('*Zentralb. f. Chir.*,' November 26, 1910. *Abstr. 'Journ. A.M.A.'*).—**Helbing and Lobmayer** state that by separating the upper jaw from the malar bone it slips forward and closes the cleft. In a case described a small chisel was introduced into the mouth, and by it the bone was cut through transversely above the second premolar tooth, the chisel being driven in until its edge could be felt from without at the margin of the orbit. After removal of the chisel strong pressure on the jaw pushed it inwards until the cleft was nearly closed, the jaw being held in position by three wires passed through holes bored according to Brophy's technique. Four days later the operation was completed in the usual way, except that horse-hairs were used instead of silk as sutures. Since using horse-hairs the authors have had no necrosis of the edges, it being impossible to draw the hairs too tight. By the end of four weeks the divided jaw was firmly united.

T. R. WHIPHAM.

The surgical treatment of infantile spinal paralysis ('*Journ. of Amer. Med. Assoc.*,' September 17, 1910, p. 1014).—**Silver** deals with this subject in a paper which is too long and too detailed for abstraction. Readers are referred to the original monograph.

T. R. WHIPHAM.

Spontaneous fracture of the femur of syphilitic origin ('*La Syphilis obscure*,' 1911, p. 107).—**J. Audrain**.—Audrain, of Caen, relates an instructive case of spontaneous fracture of the femur in a girl, aged 12 years, the daughter of agricultural labourers. The child had complained of pains in the right thigh for a week. The pain occurred in the upright position and whilst walking, but was not present when lying down or sitting. The femur was enlarged about the middle third of its length. No febrile or other symptoms. No diagnosis had been made, when the child, whilst turning in bed, experienced a sudden sharp pain: the femur was found to be fractured. The limb was put up in plaster and the child conveyed to the Hôtel Dieu at Caen, where she was carefully examined from the point of view of syphilis. The other members of the family were all carefully examined also—father, mother, a sister, and two brothers. No signs of syphilis could be made out. Notwithstanding the negative result of these examinations, mercury was exhibited before proceeding to other measures. The child, however, got well. The fractured bone healed regularly and without shortening. The mercurial

treatment was kept up, and the child has since then developed physically in a remarkable manner. As regards the history of the patient herself, the parents could remember nothing in the way of eruptions, enlarged glands, bad throats, etc. One point only came out in cross-examination: the patient began to walk and talk late. The same thing applied to the brothers and sisters as to walking. The child's teeth were good, regular; no notching and so forth. Ophthalmologically (two examinations), no stigmata of Antonelli were found. The bones exhibited neither dystrophy nor abnormality of any kind. The general appearance of the child was good. As to mother, no miscarriages, no hydramnios in her pregnancies. Father healthy. The two brothers and the sister were normal, except for some sluggishness. It was impossible to fasten on any objective sign of syphilis, yet the taint was present. Such instances are uncommon, it is true, but this case emphasises the necessity of always bearing syphilis in mind, and of not rejecting it as the ætiological factor notwithstanding negative result of careful examination.

GEORGE PERNET.

Pathology.

Congenital obliteration of the bile-ducts (*Arch. of Pediat.*, xxvii, 1910, p. 431).—**Elizabeth Peck**, in connection with an autopsy on a case of the above, discusses the causation of the condition. Thomson (*Congenital Obliteration of the Bile-ducts*, Edinburgh, 1892) concludes that probably a congenital malformation is the causative factor, narrowing of the ducts beginning early in intra-uterine life, and later causing cirrhosis, by interfering with the outflow of bile, or causing some catarrhal condition of the small hepatic ducts, which by inflammatory process causes adhesion and obliteration of their lumen. Lavenson also holds that the obliteration of the ducts is primary and the cirrhosis the result of biliary stasis, basing his opinion on the fact that the earliest foetal evidence of the liver is a solid cord that grows out of the gut-tract: this becomes detached from the gut, and buddings form respectively the hepatic ducts and the ductus choledochus, which are at first solid cords and normally obtain a lumen later. On the other hand, Rolleston (*Diseases of the Liver, Gall-bladder and Bile-ducts*, London, Saunders & Co.) believes that the primary lesion is cirrhosis started by poison conveyed from the mother to the liver of the foetus: a descending cholangitis follows, and to this is due the jaundice and the obliteration of the larger ducts. Peck thinks there may be more than one explanation of the origin of these cases. In her case, as only the cystic duct was wholly occluded (though the other ducts, found to be pervious post-mortem, may not have been freely open during life), and as bile must have reached the duodenum during the entire illness, death occurring early with marked cirrhosis of liver, spleen, and kidneys, she inclines to the theory that the condition was of an infective or irritative origin.

J. E. BULLOCK.

Otology, Rhinology, and Laryngology.

Ear disease and its prevention (*New York Med. Journ.*, 1910, II, p. 1270).—**Bardes** protests that "so much can be done at the outset of an acute ear affection to prevent its attendant dangers and inconveniences that it is astonishing that the profession as a whole does not more generally adopt and more strongly urge preventive measures," words with which all readers of the BRITISH JOURNAL OF CHILDREN'S DISEASES must be in full and

heartly agreement. The paper is an excellent one, and enumerates most of what has been said as to the care of the ear in children.

MACLEOD YEARSLEY.

Aural tuberculosis in children (*Journ. of Laryngol.*, October, 1910, p. 506).—**Milligan** thus summarises his paper, read in the Otological Section of the London meeting of the British Medical Association: (1) Aural tuberculosis in childhood is of far more frequent occurrence than is usually supposed. (2) An early and accurate diagnosis of the underlying factor in the production of suppurative otitis media is essential from a therapeutic, prognostic, and sociological point of view. (3) Children suffering from tuberculous otitis should be segregated, and every endeavour made to raise their powers of resistance. (4) Local authorities should be apprised of the great danger to life of an impure milk supply, and means should be adopted to secure efficient supervision of dairy farms and creameries. (5) Notification of tuberculosis in whatever form it occurs should be made compulsory.

MACLEOD YEARSLEY.

Some observations on the middle ear (*Amer. Journ. Obstet. and Diseases of Women and Children*, 1910, p. 544).—**C. G. Crane** makes a strong appeal to the general practitioner to increase his knowledge of ear disease in children and his activity in its prophylaxis, and quotes useful statistics.

MACLEOD YEARSLEY.

Mastoiditis in infants (*Domin. Med. Monthly and Ontario Medical Journal*, September, 1910, p. 81).—**G. H. Mathewson** contends that there are air-cells in the infantile mastoid, and says that "in some of the cases the spaces were as large as in some adult mastoid bones." He cites fourteen cases, varying in age from 4 to 20 months. His paper is not convincing, and he appears to have mistaken the limitrophic cells of Broca for mastoid cells.

MACLEOD YEARSLEY.

Disease of Deiter's nucleus (*Allg. Wien. med. Zeit.*, February 22, 1910, p. 86).—**Bárány** showed a case in a boy, probably of the left nucleus. The patient held his head to one side because in any other position he had vertigo and nystagmus. The ear was normal, the hearing very good. There was probably tuberculosis, for this vertigo was associated with tuberculosis in the upper and lower limbs.

M. D. EDER.

Recent progress in the study of ozæna.—Three papers of interest upon atrophic rhinitis ("ozæna") have appeared recently. From the study of many children with special reference to the first symptoms of this disease, **Baumgarten** (*Archiv für Laryngol.*, Bd. xxii, Heft 3, p. 492) describes an early stage in which the lower turbinate becomes temporarily engorged, generally unilaterally, with a tendency to form scabs. This engorgement gradually diminishes in frequency and extent until the lower turbinates remain shrunken and the stage of crust formation begins. The first symptoms he discovered by careful search in younger and younger children until he concluded that the disease may be present at birth, but symptoms rarely appear before four years of age. He does not believe that it can be contagious on account of the very large number of cases in which, with every opportunity for infection, the child remains well. It appears sometimes to be inherited, especially from mother to daughter. Females are more liable to it than

males. Mothers with ozæna sometimes have two or three daughters with the disease, while sons escape. He has found no connection between ozæna and syphilis. For treatment he has obtained good results in the earlier stages by application to the mucous membrane of phenolummatrosulforicinoseum in 30 per cent. solution, two or three times a week. **Alexander** (*ibid.*, Bd. xxii, Heft 2), in a long and exhaustive monograph, reviews the theories which have been advanced to explain the disease, and, from them, builds up an explanation of the different conditions, adding the hypothesis that, from the primarily diseased underlying bone, pathological substances permeate the mucous membrane and cause the atrophy and other changes. Disease of the bone is the primary pathological disturbance. The earlier in life the disease starts, the more pronounced are the characteristic bony appearances—infantile nose, small turbinates, etc. It may begin in fœtal life. The atrophy of the mucous membrane and other structures is caused in some way, probably chemical, by the bone disease. The crusts and fœtor are accidental complications of the diseased mucous membrane and glands. The process extends to the lymph-glands and mucous membrane of the pharynx and larynx. The same author (*Zeitschr. für Laryngol.*, Bd. i, Heft 6), in another paper, discusses the relation between ozæna and syphilis; although unable to obtain any positive reaction by Wassermann's test, he argues for a possible or even probable connection between the two diseases. **MACLEOD YEARSLEY.**

Enlarged tonsils and "adenoids" (*Clin. Journ.*, November 9, 1910, p. 71).—**G. F. Still** deals adequately with this subject in a clinical lecture, the most noteworthy points of which are that he insists upon indications for operation lying rather in the effects of adenoids and tonsils than on their mere presence, and that there is no need for digital examination (so terrifying to a child), with which we are in full agreement. We also cordially agree that recurring earache and the slightest degree of deafness are the strongest reasons for treatment. **MACLEOD YEARSLEY.**

A brief report of three unusual cases of retro-pharyngeal abscess (*Med. Record*, II, 1910, p. 529).—**A. Spingarn** describes these, occurring in children aged 8 years, 13 months and 14 months respectively. The first was associated with pressure on the vagus, the second was followed by general pyæmia and death, and the third was accompanied by œdema of the glottis. **MACLEOD YEARSLEY.**

Asphyxia from entrance of worms into the larynx (*Zentralbl. f. Kinderheilk.*, 1910, p. 462).—**E. Landa.**—A girl, aged 3½ years, suffering from post-influenzal broncho-pneumonia, was given a dose of calomel, after which worms appeared in the mouth. The mother thereupon rubbed the chest with turpentine, and the worms escaped into the larynx, causing immediate death from asphyxia. **J. D. ROLLESTON.**

Foreign body in the right bronchus; extraction; cure (*Arch. Internat. de Laryngol., d'Otol., et de Rhinol.*, 1910, xxx, p. 535).—**Della Valle** describes the case of a boy, aged 7 years, who entertained a large dry bean in the right bronchus for two days, whence it was removed by tracheotomy. There is appended a good discussion upon mortality and treatment of these cases, together with a bibliography. **MACLEOD YEARSLEY.**

Reviews of Books.

THE HYGIENE OF INFANCY AND CHILDHOOD, AND THE UNDERLYING FACTORS OF DISEASE. By A. DINGWALL FORDYCE, M.D., F.R.C.P. Edin., Extra Physician, Royal Hospital for Sick Children, Edinburgh. Edinburgh: E. & S. Livingstone, 1910. Price 6s. net.

So many works have been written in the last few years on the conditions and diseases peculiar to children that the need for any new book on this subject becomes more and more questionable. However, Dr. Fordyce has followed the novel plan of "attempting to correlate the primary scientific facts of medicine as they apply especially to pædiatrics." To accomplish this he divides his work into five parts, in which are considered the influences of the food factor, the factor of heredity, the factor of environment, the bacterial factor, and the factor of the age-period respectively. Under each section he first deals with the physiological aspect of the factor involved, as it applies particularly to childhood, and then uses the arguments so obtained to explain the peculiarities of the abnormal processes at that period.

The author is to be congratulated on his endeavour to impress the profession with the importance of grasping the scientific basis for the distinctiveness of disease in early life. His idea is well worked out, and to support it the book contains much valuable information which cannot be found in other works on diseases of children. Dr. Fordyce offers it to "busy practitioners in the hope that thereby they may be put *au courant* with the various aspects of pædiatric medicine, and to young physicians as a modern basis of clinical pædiatrics," but we question whether it is of direct enough value in practice to appeal to the former, and doubt if it could be assimilated by any who had not kept themselves up-to-date in the subject already. For instance, the laws of heredity, to which many pages of letter-press and a special appendix are devoted, are altogether too ill-defined and elusive at present to be of much use.

By delving into the literature the author has enriched his volume with an abundance of quotations, each of which he has been at great pains to acknowledge, but we must confess that their very profuseness makes for difficult reading. In many places the original text is very scanty, and wedged in between such lengthy quotations that the sequence is almost lost in the confusion of different literary styles.

To turn to more detailed criticism we are glad to see that he rightly emphasises the importance of breast-feeding on p. 54, without which note no book professing to deal with infant feeding should be acceptable. More debatable is his preference for scalded milk over that which has been boiled or pasteurised, but we think he is fully justified in his estimation of the dangers of raw milk. After it we expected some mention of the many contaminations of cream, but were disappointed. Little is said about citrated milk, but the statement appears that 2 gr. of citrate of soda to the ounce of milk will completely prevent the action of rennin. If he will try this for himself in a test-tube he will find it is not true. On the whole what he writes about the artificial feeding of infants is sound and free from fads. Much sound doctrine, too, is contained in the chapter on environment, where the disadvantages of town and country life respectively, and the importance of cleanliness and of athletics suitable to the different sexes are considered. The value of early, mental, moral and religious environment and its effect on the individual in later life are properly pointed out.

Many other good things are to be found in this original book, which we think deserves a better binding and general get-up than it has received. F. I.

DIE SYPHILIS DER UNSCHULDIGEN. By Dr. OSKAR SCHEUER. Berlin and Vienna: Urban and Schwarzenberg, 1910. Pp. 156. Price M. 10 50.

THE title of this book, 'Syphilis of the Innocent,' is somewhat anomalous, as the subject matter includes syphilitic infection by unnatural sexual intercourse, which can hardly be regarded as "innocent," and does not include hereditary syphilis, which is essentially so. In fact, the work is a monograph on extra-genital syphilis. The author mentions the 12,000 cases of extra-genital chancres collected by Dr. Duncan Bulkley, and published in his book on 'Syphilis in the Innocent,' 1894, also the 1124 cases published by Fournier in his book on 'Les Chancres Extra-génitaux,' 1897. To these he adds 5679 cases collected from literature and personal observations between the years 1896 and 1909. The book thus comprises a fairly complete account of the published cases of extra-genital syphilis, and includes a copious bibliography. The author classifies extra-genital chancres according to their localisation, and also according to their mode of origin. Of special interest is a case of infection through insect-bite, and it is somewhat remarkable that only one such case has been reported, for this mode of contagion may be more frequent than is generally supposed, especially in tropical regions. As regards the prognosis of extra-genital syphilis, the author considers that any departure from the normal course depends on secondary conditions and not on the extra-genital situation of the chancre. The book deals with a subject of great importance, and is a valuable contribution to the literature of syphilology.

C. F. M.

FORMULAIRE CLINIQUE ET THÉRAPEUTIQUE POUR LES MALADIES DES ENFANTS. By Dr. ALBERT VEILLARD. Fifth edition. Paris: Librairie médicale Bougault, 1911. Pp. 446. Price 4 f.

THIS book is a very practical and complete dictionary of treatment in cases of disease in children. It contains more than its title at first sight would suggest, the first part being concerned with the feeding of infants, and the second with the methods of prophylaxis and treatment in the various diseases of childhood in addition to the appropriate prescriptions. To anyone acquainted with the French Codex the prescriptions should be of great assistance, but even English readers may gain many useful hints as to remedies and the methods of rendering them palatable to young patients. In the first part, too, there are some useful recipes for feeding. There is a valuable chapter on the purgatives suitable for children, and another on opiates, which the author seems to employ more freely than is customary in England.

This, the fifth edition, has been brought thoroughly up to date, and deals with sero-therapy, organo-therapy, and "606." The book is written in a clear and easy style, and contains a fund of information to which English practitioners might well refer.

THE CARE OF INFANTS AND YOUNG CHILDREN IN HEALTH. By MILDRED BURGESS, M.D. London: H. K. Lewis, 1910. Price 1s

DR. BURGESS has written an excellent little work on the time-worn and troublesome subject of infant feeding and child management. The book begins with an account of the right management of infant feeding and the care of the mother's health during lactation. Unlike most authorities, Dr. Burgess does not find any great advantage from the mother taking large

quantities of milk. Alcoholic drinks are not approved of for the nursing woman, but the bad effect on the offspring, and its occasional effect in producing infantile convulsions as noticed by Budin, are not mentioned.

The evils of over-suckling are clearly pointed out, and the idea that prolonged lactation prevents pregnancy is shown to be false.

In her remarks on artificial feeding Dr. Burgess recommends cod-liver oil as an addition to diluted cow's milk. Most authorities recommend butter, which is probably cheaper and more within the reach of the poorer parents. Barley-water is still recommended, though it has been abandoned by many pædiatrists.

No mention is made of the fact that sterilised cow's milk requires no dilution or other alteration, and that infants as a rule do well on this diet, although a few cases of scurvy have been recorded.

Dr. Burgess does not sufficiently emphasise the importance of constantly weighing the newborn.

No table of the normal increase in weight is given, and the method of weighing an ailing child before and after each breast feed in order to ascertain the adequacy of the supply of the mother's milk is not alluded to.

Excellent chapters on bathing, clothing, and the treatment of minor emergencies conclude a most useful work.

GUY'S HOSPITAL REPORTS. Edited by F. J. STEWARD, M.S., and HERBERT FRENCH, M.D. Vol. lxiv, being vol. xlix of the third series. London: J. & A. Churchill, 1910. Price to subscribers, 6s.; to non-subscribers, 10s. 6d.

OF special interest to pædiatrists is the first article in this volume, which is written by Hildred B. Carlyll, on "The Thymus Gland and the Status Lymphaticus." Every aspect of the subject is carefully discussed, and brief notes are given of sixty-one cases including many not hitherto published. We would also draw attention to a paper by G. W. Goodhart on "Chloroform Necrosis of the Liver," in which, after an account of his experimental work on rabbits and rats, he describes the post-mortem changes found in two cases in children.

OUR BABY: FOR MOTHERS AND NURSES. By MRS. J. LANGTON HEWER, Certified Midwife; late hospital ward sister. Twelfth edition. Bristol: John Wright & Sons, Ltd., 1910. Price 1s. 6d. net paper; 2s. 6d. net leather.

THE care of the infant is a difficult problem, and there are few subjects on which such gross ignorance is exhibited even by well-educated people.

This little book is intended to guide those who are directly or indirectly concerned in the bringing up of infants. That it is widely read is evidenced by the fact that a twelfth edition has just been published, and after reading it we have no hesitation in saying that its popularity is amply justified. It ought to be studied by every mother, or, better still, by every woman about to become a mother. We cordially agree with the sentiments expressed by the writer that the care of her child should first receive the attention of the prospective mother *before* and not *after* the baby is born. Nurses, midwives, and ladies engaged in charitable work among the poor will find it an invaluable and reliable book of reference. The teaching is sound, sensible, reasonable, and essentially practical. Perhaps one might point out that in the case of the poor many of the recommendations would require to be considerably modified. The book is excellent in every respect, and is well suited to the requirements of those for whom it is intended.

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Original Articles.

ON THE OCULO-MOTOR TYPE OF POLIO-ENCEPHALITIS.*

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INTRODUCTION.

EVERYBODY now recognises that there exists an acute, primary, specific disease affecting the grey matter of the brain. This malady, known as "encephalitis" or "polio-encephalitis," was first described by Strümpell in the year 1884. It is comparable with acute anterior poliomyelitis ("infantile paralysis"), and, like that disease, occurs in children, is of acute onset, and tends towards recovery. It may or may not be associated with such general symptoms as fever, convulsions, drowsiness, stupor, loss of consciousness, coma, headache, nausea, and pronounced irritability. The special symptoms produced by the disease depend, of course, upon the particular region of the grey matter of the brain involved. For example, polio-encephalitis superior, which affects the nuclei of the cerebrum and cerebellum, may give rise to mental changes, hemiplegia, diplegia, ataxia, or disturbances of equilibrium, while polio-encephalitis inferior, which affects the nuclei of the pons and

* A communication read on February the 24th, 1911, before the Royal Society of Medicine, Section for the Study of Disease in Children.

medulla, may cause paralysis of one or several of the cranial nerves or acute bulbar palsy. The essential pathological changes appear to be thrombosis of the smaller blood-vessels, together with hæmorrhages in the grey matter and cellular exudation.

The evidence, both clinical and pathological, goes to show that affections of the grey matter, whether of the brain or of the spinal cord, are in reality one and the same disease, and are probably due to a single factor, be it infective or toxic in nature. The two affections may occur in epidemics, in which some members of the same family may suffer from the spinal and others from the cerebral variety. Indeed, cases are known where eye symptoms, as ptosis, ophthalmoplegia, and pupillary changes have been associated with an affection of the spinal cord, and the combined condition has then been termed *polio-encephalomyelitis* (B. Sachs).

THE OCULO-MOTOR TYPE OF DISEASE.

For some years I have been familiar with a group of cases in children, the chief characteristic of which is the sudden onset of squint at an age when ordinary squint is not altogether common. The cases are met with in children often of tender age. The condition may arise without obvious cause. On the other hand, it may be observed after some childish ailment, as scarlet fever or measles, and I have known it follow an injury, a fright, or some trifling operation, as vaccination or circumcision. The child, often apparently in his usual health, is put to bed, and on awaking next morning is found to present a squint, a thing never noticed by his parents before. The family physician is summoned. He surmises that "there has been a fit in the night," and that is the usual explanation offered by the mother when she brings her child to hospital or elsewhere for advice about the eyes.

In my experience, the condition, as described above, is far from uncommon. The clinical material at my disposal is not especially large. Yet I have had no difficulty whatever in collecting twenty-eight examples of the disease.

My observations lead me to conclude that the oculo-motor symptoms in these cases depend upon an acute focal encephalitis, quite analogous with the better-known forms of that disease.

That the condition should so far have escaped general recognition is probably due to the fact that in three-fourths of the cases the external rectus of one eye is alone affected, so that on casual examination of the child in the out-patient room, the condition

passes as an example of the convergent concomitant strabismus so familiar in childhood. In the rarer event of ocular muscles other than the external rectus being involved, however, the paralytic nature of the squint could scarcely be overlooked. Finally, another reason why the significance of the eye symptom is apt to be missed lies in the fact that in upwards of two thirds of the children there is no obvious disturbance of the general health.

In endeavouring to construct briefly the symptom-complex of the disease outlined above, I shall draw upon the notes of twenty-eight such cases which I possess. The following points will be taken up, and examined in the light afforded by the figures in my possession. (1) Sex; (2) age when seen; (3) age of onset; (4) the influence of other illnesses, etc.; (5) the associated signs and symptoms; and (6) the nature of the oculo-motor manifestations.

(1) *Sex*.—My list of 28 cases includes 16 females and 12 males, from which we may probably conclude that sex has no particular determining influence upon the incidence of the disease.

(2) *Age when seen*.—The patients came under notice at ages that varied from 3 months to 30 years, the average in months being 78·8.

(3) *Age of onset*.—The age of onset ranged from shortly after birth to 4½ years. The average of the 28 cases, stated in months, was 19·1. To put the matter in another way, of the total cases, 14, or exactly one half, began in the first year of life.

For purposes of comparison it may be stated that in a series of 1017 cases of unilateral convergent squint tabulated by Mr. Claud Worth ('Squint: Its Causes, Pathology, and Treatment,' 1903, p. 41), only 134, or 13·17 per cent., began in the first year of life.

The age-incidence of the two affections, ordinary strabismus, and the strabismus of polio-encephalitis, is well brought out by the following table:

	Age of onset.	
	Ordinary strabismus.	The squint of encephalitis.
Under 1 year	13·17	50·00
Between 1 and 2 years	18·30	7·14
Between 2 and 3 years	24·29	10·72
Between 3 and 4 years	18·58	25·00
Between 4 and 5 years	11·11	7·14
Between 5 and 6 years	7·18	—
After 6 years	7·37	—

From an examination of the foregoing figures we conclude, then, that the age-incidence of the disease under discussion offers

considerable contrast with that ascertained by Worth for cases of ordinary convergent squint.

(4) *Other illnesses*.—In fifteen of my cases, or 53·57 per cent., the squint was immediately preceded by some condition that might possibly have been the cause of the brain mischief. Thus the list included several zymotic ailments, as measles (2), scarlet fever (1), influenza (1), whooping-cough (1), and modified smallpox (1). A fall on the head was assigned as the cause of the squint in five children and a fright in one child. Circumcision had been performed shortly before squint was noticed in one child. Other suggested causes were teething (1) and “wasting” (1).

(5) *Associated signs and symptoms*.—The next point for examination is with regard to the frequency and nature of any general symptoms, such as might indicate an affection of the brain, in association with the oculo-motor signs. One point was very striking, namely, that in more than two thirds of the patients (67·85 per cent., to be precise) the squint was not preceded, accompanied, or followed by any disturbance of the general health of a sufficiently pronounced nature either to arouse the solicitude or to impress the memory of the children's parents. In the remaining eight cases, associated symptoms were “fits” or “convulsions” in five, combined with unconsciousness in two of these patients. In a sixth child there was a history of coma lasting for three days. A seventh patient was noted as being “sleepy, and wanting to lie about” coincidently with the appearance of the eye symptoms, and in the eighth patient the latter were associated with torticollis. One interesting case calls for a word or two of separate mention. The patient was circumcised when aged two months, a little operation that was speedily followed by paralysis of one external rectus muscle. Six years later the right leg became paralysed, apparently from acute anterior poliomyelitis.

Family predisposition to the disease was suggested by one of my cases, where an infant, aged 3 months, on recovery from “fits” and a period of unconsciousness, was found to have paralysis of one external rectus muscle. An elder sister of this patient suffered from paralysis of the left hand and arm at three months, and three months later the right eye “got fixed in the corner.”

(6) *Nature of the oculo-motor symptoms*.—This is scarcely the occasion to enter into anything like a minute analysis of the oculo-motor signs of the malady. It will suffice to say that any of the extrinsic muscles of the eyeball, either singly or in combination, may be attacked, although in three quarters of my cases the external

rectus was alone affected. Paresis was more common than paralysis of the muscle. I have never yet been able to satisfy myself that both external recti muscles were involved, although such may readily have been the case. The squint is born, as it were, fully fledged, an instructive contrast with the ordinary form, which tends to be occasional and to alternate between the two eyes at first and to get worse with the lapse of time. The squint of polio-encephalitis, in my experience, does not usually get more marked. It may, on the contrary, improve or even disappear as time goes on. In older children diplopia may be complained of, and a more or less characteristic carriage of the head may sometimes be seen. Nystagmus was noted in three patients. In one patient there was reason to think that the intrinsic muscles of the eye, the sphincter pupillæ and the ciliary muscle shared in the paralysis. In that patient, a woman, aged 20 years, whose symptoms had followed a fall on the back of the head at two years of age, all branches of the third nerve to the extrinsic muscles of the eye were paralysed, so that the only movements retained were outwards (sixth nerve) and downwards and outwards with rotation (fourth nerve). The pupil, considerably larger than that of the other eye, was motionless to light. The patient could read only large print (No. 16 Jaeger) with the affected eye. The eye was somewhat prominent, and its palpebral fissure was wider than the one of the other eye. There was no affection of fifth or facial nerves.

DIAGNOSIS.

The diagnosis of the oculo-motor type of encephalitis may be simple or the reverse. No difficulty is likely to arise unless the external rectus is alone affected, which, as already stated, occurs in three out of four of the cases. An upward, downward, outward, or intermediate squint suddenly making its appearance in a baby under twelve months could scarcely be due to anything else than an acute affection of the nuclei of the nerves which supply the extrinsic muscles of the eye. Things are different when the external rectus muscle is alone involved. In marked cases, when the child is old enough to follow a bright object with his eyes, a defect will be found in the outward rotation of the squinting eye. The eye, perhaps, cannot be moved beyond the mid-line of the orbit. But it is commoner for the outward excursion of the affected eye merely to fall short of that accomplished by the sound eye. In milder cases still, or when the defect is of long standing, nothing more may be observed save a lack of smoothness in the lateral excursions of the

eyeball. The affected globe moves outward with the consentaneous inward movement of the sound eyeball, but in a jerky fashion. "The eye drags" is an expression I have heard used both by mothers and by medical men. The eye may be said "to lose time," as it were, like a defective fine adjustment of a microscope. There is another sign that I have found useful. It is that when the child is told to look in the direction of action of the affected muscle, he instinctively turns, not his eye, but his head, which is not the case, at all events to the same extent, when the corresponding muscle in the other eye is called into play.

Conclusive evidence is to be sought in an examination of the tiny bright images reflected from the corneæ when a source of light, such as that afforded by a candle flame or an ophthalmoscopic mirror, is held before the eyes. Under these circumstances the bright spot of light will occupy approximately the centre of the cornea of the unaffected eye, while in the other eye it will be displaced in a direction opposite to that of the squint. Thus, in convergence, the bright reflex lies somewhere to the outer side of the centre of the pupil; in divergence, to the inner side of that point; in upward squint, below the centre; and in downward squint, above the centre. The extent of the displacement will be directly proportionate to the degree of deviation of the eyeball. For that matter, once we know the position occupied by the corneal reflex, it becomes easy to convert our knowledge into terms of the angular measurement of the squint for future reference. A scheme for this purpose has been drawn up by Hirschberg (*'Centralbl. f. prak. Augenheilkunde,' 1886, p. 5*). The method, although a little rough and ready, is adequate for practical purposes, especially in children.

An estimate having been formed by the surgeon of the degree of the "primary deviation," *i. e.* the deviation of the squinting eye, he next covers the sound eye and gets the child to fix the light with the affected eye. When this movement is correctly executed, the sound eye, so to speak, takes on the squint. The degree of this so-called "secondary deviation" is next estimated. In ordinary concomitant strabismus the primary and the secondary deviations are equal, but in paralytic strabismus, such as that due to encephalitis, that is no longer the case. In those circumstances, for reasons that are so well known that they need not be explained here, the secondary deviation is bigger than the primary.

Having ascertained by examination of the corneal reflexes or by other means than an extra-ocular muscle is paretic, there may still be a doubt as to the cause of the condition if the history of the case

be defective, as it sometimes is in hospital out-patients. Such a condition may in reality belong to the group of congenital paralyses, the commonest example of which is paralysis of the external rectus muscle in one eye or in both. I am not prepared to suggest any means whereby these two conditions can be distinguished in the absence of a trustworthy history of the case, unless it be by the electrical examination of the affected muscles—no simple matter when dealing with the eye of a young child.

CONCLUSIONS.

(1) There is a particular form of paralytic strabismus in children which is due to polio-encephalitis.

(2) It is not uncommon, and is most frequent in children under one year of age.

(3) It is associated comparatively seldom with other symptoms indicative of a cerebral disorder.

(4) Zymotic diseases appear to be important factors in its causation.

(5) Although the paralysis may affect any of the extrinsic muscles of the eyeball, yet in three-fourths of the cases the external rectus muscle is alone involved. The extrinsic musculature of the eye is seldom attacked.

(6) The common form of encephalic strabismus is very apt to be confused with the ordinary form of concomitant convergent strabismus.

SOME CHRONIC LUNG AFFECTIONS IN CHILDREN.*

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To-day I purpose to demonstrate to you some children who have suffered from coughs of long duration, in all of them lasting for many years and in some even from babyhood, in order that we may consider the causes which produce such coughs, and the means whereby we can arrive at a correct diagnosis.

There are various forms of chronic lung affections which occur in children, but these forms are not numerous, and there are only two

* Summary of a Post-Graduate Demonstration given at the General Hospital, Birmingham, on November the 15th, 1910.

of them which are at all frequently met with, namely, bronchial catarrh and a mild form of bronchiectasis. Many of the cases of chronic pulmonary affections in children are difficult of diagnosis, chiefly on account of the few abnormal physical signs which may be discovered on examining the chest.

The cases of children who present obvious physical signs of a coarse pulmonary lesion of long standing are, as a rule, easy to diagnose, but such coarse lesions are uncommonly met with. Phthisis of the adult type, for instance, rarely occurs under twelve years of age. It is very important to remember that it is only occasionally the more serious chronic lung conditions are found. It is difficult to estimate how frequently these chronic and more serious conditions occur, for the diseases being of long duration the children are often taken from one medical man to another, and from one institution to another, thereby appearing in the statistical records of each.

The following lung affections as they manifest themselves in children will be considered :

(1) Bronchial catarrh; (2) chronic bronchitis; (3) bronchiectasis—(a) mild, (b) severe (fibrosis of lung); (4) asthma; (5) chronic tuberculosis (adult form of phthisis).

(1) *Bronchial catarrh*.—By this is meant a mild form of bronchitis, which occurs in children year after year and which produces no structural changes in the lungs. The disease is not nearly so severe as the ordinary form of chronic bronchitis, and therefore I prefer to call the condition bronchial catarrh. It is certainly different in its results from the more severe chronic bronchitis of children, and even more different from the chronic bronchitis of adults.

The patients suffering from bronchial catarrh are those in whom errors in diagnosis most frequently occur. This condition is mistaken usually for one of the other groups, all of which are more serious than the first. Children suffering from a catarrhal condition of the bronchi may have coughs for many years, and upon examination of their chests very few abnormal physical signs are found. The children with these chronic coughs are usually delicate-looking and thin, but they are not emaciated nor stunted in their growth. They have not a good colour for they are generally anæmic, but they never have any cyanosis as appears in chronic bronchitis and in other lung conditions in which there is obstruction to blood passing through the pulmonary circulation. There is no clubbing of the fingers, and the children can run about without any dyspnoea. They frequently catch cold, and the anxious mother nearly always

asks the examining physician if the child is suffering from "consumption."

It is impossible to diagnose this lung condition without obtaining an accurate history of the illness. In some instances it will be found that the cough has been almost continuously present for many years, while in others that there have been intervals in which the cough has ceased altogether. The mother will often say, when describing the symptoms from which her child is suffering, that the cough has been present on and off since infancy. The child is said to be frequently catching cold. In other cases the history indicates that the cough followed immediately after one of the specific fevers, and that the child has been delicate ever since. There usually is no history of expectoration, and probably very little phlegm is formed. On the other hand, the child may have expectorated a little phlegm, usually only a small amount and not constantly. If a large quantity of phlegm is expectorated then the child is most certainly suffering from some of the other forms of chronic lung affections which will be considered later. In inquiring about expectoration, it must be remembered that children do not frequently expectorate, and that when any phlegm is coughed up into the throat the child prefers to swallow rather than to spit it out. Careful inquiry must therefore be made to ascertain whether the child swallows the phlegm.

In this affection there are no abnormal physical signs found except perhaps a few rhonchi at times when the child catches a fresh "cold." The condition goes on for years, sometimes from babyhood, and yet no coarse lesion is found in the lungs. The emphysema which might be expected to develop is not found, and no dilatation of the bronchi seems to take place. The children are apparently quite healthy upon physical examination, and if the medical examiner had not been told of the chronic cough he would not have suspected any pulmonary disorder.

The greatest help in the diagnosis is the length of the history of the illness. The children suffer from a chronic lung affection of many years' duration, which produces little or no permanent structural change in the lungs. If, therefore, a history is obtained of a cough lasting on and off for many years, and there are not abnormal physical signs in the chest, no cyanosis, no expectoration, or very little, no clubbing of the fingers, then the condition is probably one of bronchial catarrh, and the suggestion that it may be due to tuberculosis can be ignored, for there is no doubt that tuberculosis of the lungs in children is rarely chronic, and when it is so, is never of such long duration as occurs in adults. The

longer, therefore, the duration of the illness, the more unlikely is the cough to be due to tuberculosis, and the more certain it is that the patient is suffering from bronchial catarrh.

These children gradually recover as they grow older; this we assume, for it is rare that we can prove it. The condition is not found later in life, and therefore we assume that they recover; nor do we know of any chronic lung affection occurring in adult life, in which we frequently get a history of a constant cough during childhood.

I have called the condition bronchial catarrh, as no better name seems to be forthcoming. It is an extremely common condition and is probably due to a mild bronchial catarrh, which continues for years without producing any dilatation of the bronchi, and which eventually disappears, leaving no trace of its previous existence.

There are a few conditions which one must look out for in examining a child who seems to be suffering from bronchial catarrh, and they must be excluded, for they are capable of producing a cough which may last a long while. The first condition is that of enlarged tonsils and adenoids. I have had children sent to me diagnosed as suffering from phthisis when their ill-health was entirely due to this excess of lymphoid tissue, as proved by removal of the adenoids and tonsils curing their complaints. Among other children the cough is a neurosis and is not dependent upon any affection of the respiratory apparatus.

CASE 1.—Boy, aged 10 years. Bronchial catarrh. *History*: Cough in winter chiefly since infancy. Has never been ill enough to be confined to bed with the cough. It did not commence with any illness. A little phlegm at times. *General appearance*: Well developed and well nourished, pale, no clubbing of fingers. No adenoids and enlarged tonsils. *Physical signs*: A few rhonchi; no signs of emphysema. *Von Pirquet's* cuti-reaction negative.

CASE 2.—Girl, aged 9 years. Bronchial catarrh. *History*: Cough on and off for three years, worse in the winter. Brings up a little phlegm at times. Adenoids and tonsils removed, aged 4 years. *General appearance*: Healthy but thin. No clubbing of fingers. *Physical signs*: Breath-sounds very harsh over left apex in front. No adventitious sounds. *Sputum* contained no tubercle bacilli.

CASE 3.—Boy, aged 9 years. Bronchial catarrh. *History*: Cough since age of 18 months following pertussis. Expectoresates a little phlegm, never in large quantities. *General appearance*: Slightly cyanosed, fairly healthy looking and well nourished.

Physical signs : Percussion normal. Breath-sounds normal. Rhonchi all over each lung at times. *Sputum* : No tubercle bacilli.

(2) *Chronic bronchitis* is a rare disease in children, and does not require especial description as it is similar to that which occurs in adults. It may be the sequel of acute bronchitis or it may make its appearance insidiously. There are frequent exacerbations. Alone it is a rare condition, but it is frequently found associated with cardiac affections, especially mitral disease and congenital malformations. It is constantly found in patients suffering from scoliosis, when it is frequently mistaken for tuberculosis.

The patients look very like those in the previous group, but there is usually some cyanosis, the cough is more frequent, and there are paroxysms of coughing which often suggest pertussis, and there is usually some phlegm coughed up, but small in quantity. Asthmatic attacks may also occur. On examination of the chest there are rhonchi and coarse râles scattered throughout, and the lungs are found to be emphysematous. There is no clubbing of the fingers. The diagnosis may not be easy, and the important affection from which to distinguish it is tuberculosis of the lungs. In chronic bronchitis there is no wasting, no fever, the physical signs are bilateral, there is emphysema, and no tubercle bacilli are found in the sputum.

The results of chronic bronchitis in children may be—(1) recovery, (2) progressively worse with emphysema, (3) bronchiectasis.

These cases of chronic bronchitis should be treated in a similar way to the corresponding condition in adults. Potassium iodide is the drug from which the most benefit is obtained. In the asthmatic attacks which are associated with this form of bronchitis and which are due to bronchial spasm, harm may be done by giving drugs which dilate the bronchi. The spasm may be an attempt to prevent the inflammatory secretions from travelling further and so causing a broncho-pneumonia.

(3) *Bronchiectasis*.—A mild form of bronchiectasis is not an infrequent affection in children, whereas the severe form with contraction of the lung containing large cavities is much more rare. A slight amount of dilatation of the bronchi may develop rapidly during an attack of whooping-cough and persist for a considerable time, even two or three years. As the child grows older the bronchi may resume their normal size. After an attack of pneumonia bronchiectasis may be present for some considerable time and the child gradually recover, so that no evidence of the disease may be found later in life. Dilatation of the smaller bronchi may take place and then the condition is spoken of as bronchiolectasis.

The history in mild cases is usually only one of a constant cough with the bringing up of phlegm which varies considerably in amount. There is usually a large quantity and it often gives a slightly foetid smell. There is not much wasting nor nocturnal fever. The fingers usually show slight clubbing. It is rather easy to imagine early clubbing of the fingers in children when it does not exist, on account of the skin on the proximal side of the nails usually having a glossy appearance. The skin is generally much smoother in this position than in adults, and therefore looks as though it were stretched.

On examination of the chest very few abnormal physical signs are found. A few rhonchi may be heard, usually confined to one portion of a lung, more frequently the base than the apex. The adventitious sounds vary considerably from day to day. No evidence of consolidation of the lung can usually be ascertained. There is no alteration in the breath-sounds and the percussion note is normal.

This condition of a mild form of bronchiectasis is a fairly common one, and must not be confused with the severe form which gives definite physical signs of its existence, such as contraction of one side of the chest with displacement of the heart to the affected side and emphysema of the opposite lung. In the severe form the child becomes wasted, but not markedly so; there is usually fever; some amount of cyanosis and dyspnoea are usually present; a large quantity of sputum, often foetid, is expectorated, and definite clubbing of the fingers occurs. There is a septic cachexia the result of a septic absorption.

The following are cases of the milder form of bronchiectasis:

CASE 4.—Girl, aged 9 years. Bronchiectasis. *History*: Cough since pertussis three years ago. Expectorates at times a large quantity of phlegm, sometimes as much as half a cupful at a time, slightly foetid. Streaks of blood in phlegm once or twice. *General appearance*: Undersized, thin, slight cyanosis, clubbing of fingers. *Physical signs*: Chest symmetrical, resonant all over. No tubular breathing. Rhonchi all over. *Sputum*: No tubercle bacilli.

CASE 5.—Boy, aged 7 years. Bronchiectasis. *History*: Pneumonia when eighteen months old, coughed up phlegm for three or four years; during last two years large in quantity, about a cupful at a time, and very offensive. *General appearance*: Healthy, slight clubbing of fingers, rather thin, weight 3 st. 8 lb. *Physical signs*: April, 1910, note impaired left base, with tubular breathing. Bubbling râles at both bases. November, 1910, a few rhonchi in chest, no tubular breathing. *Progress*: Improved marvellously on continuous inhalations; very little sputum now.

CASE 6.—Girl, aged $5\frac{1}{2}$ years. Bronchiectasis. *History*: Cough on and off since measles when aged $1\frac{1}{2}$ years. Phlegm large in quantity at times; said to have contained blood. *General appearance*: Undersized, wasted, slightly cyanosed, no clubbing. *Physical signs*: Only rhonchi heard in each lung. No impaired resonance. *Von Pirquet's* cuti-reaction negative.

CASE 7.—Boy, aged 5 years. Bronchiectasis. *History*: Whooping-cough in February, 1908; cough ever since, with paroxysms of coughing. Phlegm, large quantity at a time. *General appearance*: Undersized and rather thin. Slight clubbing of fingers. *Physical signs*: Rhonchi and coarse râles over each lung, especially on left side. *Sputum*: No tubercle bacilli.

The following is a typical example of fibrosis of the lungs subsequent to an attack of pneumonia, and in which no tubercle bacilli have been found on examination of the sputum.

CASE 8.—Girl, aged 9 years. Fibrosis of left lung. *History*: Pneumonia four years ago on left side. Cough ever since; marked dyspnoea. Phlegm, large quantity. No hæmoptysis. *General appearance*: Small, emaciated, cyanosis, dyspnoea, hectic flush, no clubbing of fingers. *Physical signs*: Left side of chest shrunken, right side prominent, cardiac apex normal position. Note dull all over left lung, with vocal resonance and vocal fremitus increased. Tubular and almost amphoric breathing posteriorly. Very few moist sounds. *Sputum*: No tubercle bacilli.

In addition to the ordinary treatment of maintaining the general health and keeping the child as much as possible in the open air and exhibiting expectorant mixture, I have found that I get excellent results by the continuous inhalation of certain antiseptic drugs on Dr. Burney Yeo's inhaler. The inhaler is used continuously, night and day, and five drops of the following mixture is dropped on the sponge contained in it every two hours during the day and two or three times during the night or as often as is convenient.

Creosoti ʒij, acid carbol. ʒij, tin. iodi ʒj, sp. etheris, ʒij, sp. chlorof. ʒij. Dr. David B. Lees writes: "The odour of the solution is not unpleasant, and patients appear to derive great benefit from its use. Cough is rapidly relieved without any sedative or expectorant medicine, and sputum is more easily expectorated and is lessened in quantity. The use of this solution has no irritating tendency nor does it cause hæmoptysis. If hæmorrhage should occur, it might be well to remember Dr. Yeo's suggestion and to add turpentine to the solution. The absolutely continuous use of the inhaler (except at meal times) must be rigidly required."*

* 'Brit. Med. Journ.,' vol. ii, 1909, p. 1659.

The inhaler is quite inexpensive, it is very light, and often has to be replaced as the child is liable to break it during sleep. I am satisfied that with this treatment the cough and expectoration greatly diminish in nearly all cases. Case 5 has been treated in this way for five months and has shown vast improvement.

The postural treatment as described by Dr. Ewart I tried for some time, but obtained no good results except perhaps in one or two cases. Probably the fault was mine in not going sufficiently into the details, and in insisting on the continuation of the treatment.

(4) *Asthma*.—Asthma of the spasmodic type is also rare in children, while the asthma associated with bronchitis is the type more commonly found. These conditions do not require special description. The following case is rather an unusual one of asthma on account of the shortness of the attacks.

CASE 9.—Boy, aged 13 years. *Asthma*. *History*: Duration two years; attacks of shortness of breath two or three times a week, but more frequently now. They only last a few minutes, rarely more than five. He becomes very cyanosed during an attack. Occurrence any time, not particularly in the night. Slight cough, no sputum. *General appearance*: Healthy, slightly cyanosed. *Physical signs*: Chest normal.

(5) *Chronic tuberculosis of the lung* or phthisis of the adult type is a very rare condition in young children, but tends to become more common from twelve to fifteen years of age. Tuberculosis of the lungs in children runs a much more rapid course as a rule than it does in adults. That this pulmonary affection is very rare is shown by the following table, which contains the results of my examination of 8000 children under the age of fifteen years, who attended the out-patient department of the General and the Children's Hospitals, Birmingham. The ages of the children examined at the General Hospital ranged from a few days to fifteen years, and those at the Children's Hospital up to twelve years.

	General Hospital.	Children's Hospital.	Total.	Percentage.
Children examined	1615	6385	8000	—
Diagnosed as phthisis				
of the adult type	9	6	15	0.19
Doubtful cases of phthisis				
of the adult type	7	4	11	0.14

This table was published in THE BRITISH JOURNAL OF CHILDREN'S DISEASES in May, 1909, and I have not altered it, but I feel convinced now that at least five of the fifteen children in whom a diagnosis of

phthisis was made were not suffering from that condition at all, but from a mild form of bronchiectasis.

Dr. G. A. Auden, Medical Superintendent to the Education Committee of Birmingham, reports that in 1909 pulmonary tuberculosis was diagnosed by the Medical School Inspectors of Birmingham in fifty cases as the result of an examination of 26,484 children. These figures are slightly misleading, for although these numbers of children were examined, yet the cases of pulmonary tuberculosis were selected from something like 40,000 children, as the teaching staff were especially asked to present any children who in their opinion ought to be medically examined.

Dr. Bostock Hill reports fourteen cases in 3175 examinations in Warwickshire. These figures show how rare a condition phthisis of the adult type is in children. In my opinion it is even rarer than these figures indicate, because I find that the error in diagnosis is nearly always in the direction of calling a condition tuberculous when it is not. It is unusual for tuberculosis of the lungs to be overlooked in a child, because the physical signs develop so rapidly, and by the time they come up for treatment definite physical signs of the malady are certain to be present. It is not so in adults, the physical signs in the lungs appear long after the disease has commenced.

I have personally conducted 244 post-mortem examinations on children, and in 22 of these found tuberculosis of the lungs, but in only two cases was the disease in the lungs chronic, so that it could be described as phthisis of the adult type. This is under 1 per cent., and is far less than the proportion of cases in which tuberculosis of the lungs is found in post-mortem examinations on adults.

The following is the only case of phthisis of the adult type which I have been able to find for to-day's demonstration :

CASE 10.—Boy, aged 12 years. *Phthisis* : Caries of spine. Three paternal uncles and one aunt died of phthisis. *General appearance* : Healthy, well nourished, slightly cyanosed—no clubbing. Diagnosed as phthisis in October, 1908. He has greatly improved since and is now nearly well. *Physical signs* : Tubular breathing at right apex ; note high pitched there, no adventitious sounds.

So frequently is a child said to be suffering from pulmonary consumption when a much less serious disease of the lungs is present, that I propose to devote the remainder of this lecture to the diagnosis of chronic pulmonary tuberculosis in children. Before a diagnosis of pulmonary tuberculosis of this form is made the following points should be carefully considered.

(a) Duration of the illness.

(b) General appearance of the patient.

(c) Cough.

(d) Hæmoptysis.

(e) Temperature.

(f) Pulse.

(g) Physical signs.

(a) *Duration of the illness.*—The length of the illness is very helpful in diagnosis, for if a child has had a cough for many years the condition of the lungs is very unlikely to be of tuberculous origin. Tuberculosis of the lungs in any form in children is never of such long duration, and the usual physical signs quickly present themselves. The older the child the more chronic the affection may become. In the children who get well the recovery is very rapid. The disease does not remain for any length of time in the same condition as it does in adults, but it either rapidly improves or rapidly advances. A pulmonary affection of long duration is unlikely to be due to tuberculosis.

(b) *General appearance of the patient.*—A child who has had a cough for many years is often thin, but because of this loss of flesh a diagnosis of phthisis should not be made. On the other hand recent loss of weight may be due to tuberculosis of the lungs. The child with the tuberculous aspect is so familiar that it needs no description here. The tuberculous aspect is far more frequently found in children because they are suffering from tuberculosis of the joints, peritoneum, or other parts of the body, than because the lungs are affected. In cases in which there have been coughs for many years a slight cyanotic appearance is sometimes found. This appearance is rare in phthisis unless the disease be far advanced. In phthisis the child usually shows marked anæmia, but sometimes is observed the hectic flush which is frequently seen in adult patients suffering from pulmonary consumption. Some of the children with cyanosis due to chronic lung affections present clubbing of fingers; this is an unusual occurrence in children suffering from phthisis.

(c) *Cough.*—In children suffering from phthisis cough is nearly always present, but it is remarkable how very slight it may sometimes be even when the disease is far advanced. Expectoration may or may not be present, but in the older children expectoration is nearly always present, but rarely large in amount. If the expectoration be copious in a child with a cough of long duration the condition is unlikely to be due to tuberculosis: it is more often a case of bronchiectasis. The sputum in all doubtful cases should be examined for tubercle bacilli.

(d) *Hæmoptysis* due to phthisis is rare in young children, but is sometimes present in the older ones. It is extremely rare as an initial system. Whenever there is a history that the patient has coughed up phlegm streaked with blood there can often be found some condition in the mouth, pharynx, or nose, which will account for the hæmorrhage. Hæmoptysis, therefore, is of little value in the diagnosis of phthisis in children, and a history of its occurrence should not lead the examiner astray.

(e) *Temperature*.—The temperature chart may give valuable information in children suffering from chronic pulmonary tuberculosis. The temperature is constantly above normal, and falls two or three degrees towards the early morning, at the time the night-sweats occur. This remittent fever, however, does not develop until the disease is advanced enough to give definite physical signs. Night-sweating in children is of very little diagnostic importance, as it occurs so frequently in the debilitating diseases of the young.

(f) *Pulse*.—The pulse-rate is of value in helping to exclude phthisis, for if it be infrequent it is a clear indication that there is no tuberculous lesion in the lungs. So many conditions increase the pulse-rate in children that a frequent pulse is of little use in the diagnosis of phthisis.

(g) *Physical signs*.—The physical signs of phthisis in children are the same as those in adults, but they make their appearance earlier and develop more rapidly. If physical signs be absent the disease is rarely present. Many children have been thought to be suffering from phthisis when there have been no physical signs of the malady, and in nearly every case the subsequent history has proved that the diagnosis was wrong. Phthisis when it occurs in children is most frequently apical in situation, but exceptions to this are more often found in them than in adults.

Bronchiectasis and fibrosis of the lungs present physical signs similar to those of phthisis. These diseases are more frequently situated in the lower lobes, so that when there are signs of consolidation, retraction, tubular breathing, etc., at the bases of the lungs, the condition is much more likely to be due to these diseases than to tuberculosis.

The percussion note is impaired over the affected areas in tuberculosis of the lungs. As the breath-sounds heard over the chest of healthy children are often thought to be tubular by inexperienced examiners when the sounds are simply harsh or puerile, the percussion note is very valuable in showing that this harsh breathing is not produced in consolidated lung-tissue. The normal vesicular

sounds are louder and harsher in children than in adults on account of the thinness of the chest-wall and the greater elasticity of the lungs. The difference between the breath-sounds heard over the apex of the right lung and those heard over the corresponding position of the left lung is more marked in children than in adults. It is sometimes extraordinary how very harsh the breath-sounds may be over the right apex when compared with those over the left in children who are apparently in good health. It is certain that such children have no pulmonary disease to account for the differences in the two sides. The great variance, therefore, that may exist in health in the breath-sounds of children increases the importance of percussion as a valuable means in the diagnosis of pulmonary consumption. Fine crepitations are heard during inspiration over the affected portions of the lung in phthisis, whether the patient be a child or an adult. In chronic bronchitis the only adventitious sounds present are rhonchi, never fine crepitations. Phthisis is sometimes diagnosed because rhonchi are heard over the apex of the lung; these are due to the bronchial catarrh, which is non-tuberculous, and which the patient has suffered from year after year. In chronic bronchitis there is frequently a certain amount of spasm with expectoration, and this is sometimes mistaken for tubular breathing.

I have discussed the different forms of chronic pulmonary affections in children at considerable length, and have tried to classify them in as simple a way as possible, because there is a great tendency for a diagnosis of tuberculosis to be made in almost all conditions in which a cough persists for a long time in a child. The cases which have been demonstrated to you appear to be fairly typical ones, and illustrate the points which have been raised.

HYDATID CYST OF THE LIVER IN A BOY, AGED 9½ YEARS; OPERATION.

By A. J. CLEVELAND, M.D., M.R.C.P.,
Honorary Physician, Jenny Lind Infirmary; and

J. BURFIELD, M.B., F.R.C.S.,
Assistant Surgeon, Jenny Lind Infirmary, Norwich.

A BOY, aged 9½ years, was admitted into the Jenny Lind Infirmary for Children on January the 7th, 1911. The patient was well until nine months ago, when he was pulled to the ground from off his

brother's back, on which he was having a ride. He complained greatly of pain in the lumbar region, and his mother thought that he must have "broken his back." He does not seem to have been sufficiently hurt to be kept from school, but ever since the accident he complained off and on of pain in his back. At the same time a lump was noticed in his right side.

Condition on admission.—He is small for his age, pale, and below the normal intelligence. No enlarged glands. Heart and lungs normal. Urine normal. No jaundice. There is a tumour to be felt below the right costal margin reaching to the level of the umbilicus. It is dull on percussion, and has an elastic feel like that of a very tense cyst, and is apparently part of the liver. It extends laterally from the middle line to a point just external to the nipple line. No other irregularity of the liver can be felt, and no other abdominal tumour. With the X-ray screen the tumour gave a shadow of the same density as the rest of the liver, and could be seen to be part of the liver. A blood-count by Dr. Claridge gave the following proportion of white cells: Polymorphonuclears, 54·4 per cent.; lymphocytes, 36·4 per cent.; transitionals, 5·3 per cent.; eosinophils, 2·9 per cent.; and large mononuclears, 1·0 per cent. There was thus no eosinophilia. The boy was put on iodide of potassium until February the 3rd, when Mr. Burfield was asked to explore the tumour.

On opening the abdomen this was seen to be a cyst in the anterior part of the right lobe of the liver, and on aspirating it clear fluid like water came out. After some 6 or 7 oz. had been evacuated the remaining fluid (in all there was 12 oz.) was turbid. The inner layer of the cyst was removed intact and the cavity drained by a rubber tube. No other cysts were seen in the liver or abdomen. Although there were no daughter-cysts to be seen, the fluid under the microscope showed numerous brood-capsules. The boy is recovering well.

London and Provincial Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, February the 24th, 1911.

Dr. E. CAUTLEY, *President, in the Chair.*

A Case of Spasmus Nutans.—**Dr. E. BELLINGHAM SMITH.**—A male child, aged 11 months, was brought to the out-patient department for “movements of the head and eyes.” The side-to-side movements of the head were first noticed two months ago, and were followed in a week by the nystagmus. The head-movements were of the negative type, lasted only a few seconds, and tended to recur every few minutes if the head was unsupported; recently they had become less frequent. They ceased when the child was lying in its cot. The nystagmus was horizontal, and more marked in the right eye than the left. It was fine and exceedingly rapid. When the attention of the infant was directed to any object he gazed at it out of the corner of his eyes and with head averted. There was occasionally present a convergent strabismus, and twitchings of the left hand were said to occur.

The **PRESIDENT** asked whether the nystagmus was due to the original condition or to the leucoma which developed.

Dr. BELLINGHAM SMITH replied that it was possibly due to the child's high myopia, though he did not see why it should not occur apart from that and apart from the leucoma, as the nystagmus was becoming less marked.

Congenital Dilatation of the Colon.—**Dr. J. PORTER PARKINSON.**—A girl, aged 6 years, was admitted into the Queen's Hospital for enlargement of the abdomen and constipation. Except for constipation and occasional colic the child had been healthy from birth, and there was no history of consumption or syphilis in the family. On admission the girl was healthy and well-nourished, not in the least anæmic. The heart and lungs were healthy except for displacement of the diaphragm upwards, which caused the heart's apex to be displaced into the fourth space and compressed the bases of the lungs. The abdomen was greatly distended, measuring twenty-nine inches in diameter, and the peristaltic movements of the colon were occasionally visible. It was not tender, and was generally resonant. Enemata brought away enormous quantities of fæces and the abdominal distension disappeared, so that now the measurement was only twenty-one inches. The colicky pains had disappeared. The skiagrams taken after injection of bismuth showed the great enlargement of the colon. Auscultatory percussion and other methods suggested that there was some enlargement of the stomach.

Mr. H. SKELDING asked whether hypertrophy of the walls of the colon was always found in such cases and what form of operation was best. He did not think that the name usually given was sufficient.

Mr. P. L. MUMMERY condemned colotomy, the death-rate in such operations being 75 per cent. The operation was difficult to perform satisfactorily except in those cases in which the affected portion of the colon was excised, or exploratory laparotomy only was done. He had been successful in one case after performing appendicostomy. The name, he considered, was a wrong one, as hypertrophy was as marked as the dilatation.

Mr. D. C. L. FITZWILLIAMS said that it was taken for granted that these cases were always congenital, but he had known a case to occur after removal of the appendix.

The PRESIDENT said such cases varied considerably in type. There were cases in which portions of the colon were narrowed for a considerable distance. So called congenital dilatation of the colon was usually a mixture of dilatation and hypertrophy, though eventually there was usually general hypertrophy. Some cases had shown patches of hypertrophy and patches of dilatation. Some of the cases were congenital, and some babies had died from it at as early an age as six years. Probably a similar condition might occur later in life. One idea was that it was a neuro-muscular defect.

Cerebral Athetotic Diplegia.—Dr. E. CAUTLEY.—The patient was a girl, aged 2 $\frac{3}{4}$ years. The family history was negative, but the mother was only nineteen years of age when the child was born. At four months she could sit up, and this was an important point in favour of the condition being post-natal in origin. She cut her teeth quickly, and was said to have talked well at two years of age. She could walk a little by herself last October, but was never able to walk well as her feet turned out. Nine months ago she had a fall and about that time her back was found curved. For the last four months she had been kept on her back, and for a month or so she was said to have become “strange in her mind.” The child was well nourished and her mental condition was lively but defective. She laughed and cried without obvious cause and could speak only a few words. Her expression was usually rather a vacant smile. The pupils showed no abnormality and there was no nystagmus. The fundi were normal. The palatal arch was high and the teeth were well developed. The head was asymmetrical, 18 $\frac{1}{2}$ in. in circumference, and was always held a little to one side, as if there were slight torticollis, while the chin was receding. The hands showed ataxic and purposeless movements while at rest and some inco-ordination on movement. There was a little scoliosis in the mid-dorsal region with convexity to the right. The knee-jerks were exaggerated, especially on the left side. The legs were slightly stiff and the feet in the position of equino-valgus, but the deformity was easily reduced. The toes were not hyper-extended. The gait was ataxic and slightly spastic, and the right leg was somewhat flexed at the hip and externally rotated. There was also incontinence of urine. The condition was probably due to structural damage, possibly by mild encephalitis, of the frontal and parietal regions of the cortex.

Dr. L. GUTHRIE said the case was puzzling, especially if one regarded the history as accurate, which he did not believe. The child had a small head for its age, which favoured the congenital view. The head was asymmetrical and was suggestive of microcephaly. He thought there was some condition before birth which accounted for the athetosis. She was not an absolute idiot, but the prognosis was not good.

Dr. F. LANGMEAD referred to the group of cases described by Captain Harrison when he investigated endemic goitres in India; they were cases

of children who were born of goitrous parents, whose brothers and sisters were cretins. Those cases closely resembled cerebral diplegia. The cases improved somewhat on thyroid. There were athetosis and marked cerebral diplegia.

Dr. C. R. Box said he concluded that the cases mentioned in Captain Harrison's paper were congenital diplegia. He had not seen any results on the condition from thyroid medication. In regard to the present child, he asked whether any investigation had been made concerning syphilis. Evidently a good number of cases of ante-natal diplegia had a syphilitic origin.

Dr. CAUTLEY, in reply, said there was no history suggestive of syphilis, but a Wassermann reaction would be done. He agreed with Dr. Guthrie that it was congenital and somewhat allied to microcephaly, and that as a rule the history was not to be relied upon.

Congenital Absence of the Pectoral Muscles.—Mr. D. C. L. FITZWILLIAMS showed a girl, aged 13 years. Both the pectoral muscles were absent on the left side and the chest was flattened, and the ribs could be seen as well as felt on that side in consequence. This was best demonstrated by making her press her hands together with the arms stretched out straight in front of her. The anterior wall of the axilla was composed of a prominent fold of skin, which stretched from the front of the chest to the arm, almost in the manner of a web. There was an asymmetry about the shoulders, and the left scapula appears "winged," although the trapezius and serratus magnus muscles seemed normal. No other abnormality had been observed, and no history could be obtained of deformity in the family. The scars present were the result of the removal of tuberculous glands.

Dr. GUTHRIE said the scars were not the result of tuberculous glands, but lymphadenomatous ones. Treatment by arsenic caused the enlargements to disappear. A question arose whether the muscle was absent, or atrophied from peripheral neuritis due to the arsenic. He had not noticed the absence of the pectorals some years ago.

Anorexia Nervosa.—Dr. J. W. CARR.—The patient was a Jewess, aged 10 years. Her previous history was rather indefinite, as both parents are dead. She was said to have been healthy until she was five years old, when she lost her appetite, had pain in the stomach after food, and began to waste. Nearly three years ago she was in the Great Ormond Street Children's Hospital for six weeks. Her weight was then 25½ lb., and she gained 1½ lb. under treatment. Her appetite was very poor, and she vomited occasionally. No definite cause for the wasting was made out. She was admitted to the Victoria Hospital, Chelsea, last September. Her weight then was 26 lb., and was now about 27 lb. She was excessively emaciated, but could walk about quite easily. She had no appetite, and complained of a lump in her throat, which she said prevented food going down. She had been sick nearly every day since admission, often five or six times, usually very soon after taking food. Her temperature was generally subnormal, and there was no evidence of disease in any part of the body. Bismuth and the X rays showed that there was no obstruction in the œsophagus and no dilatation of the stomach. The tongue was sometimes much furred and sometimes clean. The bowels acted fairly regularly. The treatment tried has included isolation and massage, faradism, feeding by nasal tube, gastric lavage daily, starvation,

and chloretone, to produce drowsiness ; but the vomiting continued, and the general condition remained unaltered.

Dr. C. W. CHAPMAN suggested that oil should be rubbed into the child, night and morning, by the fire. He would also give small doses of cocaine with the food. If that failed he would give bromide of sodium with beef-tea.

The PRESIDENT suggested there might be ulcer or pyloric spasm as a basis.

Dr. PARKES WEBER thought there might be supra-renal insufficiency.

Dr. CARR replied that there was no evidence of pyloric spasm associated with duodenal trouble. He did not see how supra-renal inadequacy would account for the vomiting. The suggestion as to cocaine was worth trying.

Specimens from a Case of "Delayed Chloroform Poisoning."—

Dr. A. W. G. WOODFORD.—A boy, aged 9 years, was admitted to the Queen's Hospital on November the 30th, 1910, for the removal of an enlarged gland in the right side of the neck. Except for the gland in question he showed no signs of disease. On the following day the gland was easily removed, anæsthesia lasting in all about fifteen minutes. On recovering consciousness he vomited once, and it was reported that he passed a comfortable night. On December the 2nd he vomited twice, but took the usual light diet well, and appeared to be in a satisfactory condition. December the 3rd : Slight vomiting on three occasions. On the morning of December the 4th he ate part of his breakfast, and was then noticed to be in rather a collapsed state. He appears to have reacted well to simple restoratives. He was said to have slept heavily during most of December the 4th, but was never unconscious. Early in the evening of the same day he vomited, and about 8 p.m. became unconscious. Two hours later respiration ceased. With artificial respiration the heart continued to beat until 3 a.m., December the 5th, five hours after the failure of respiration. The urine, tested shortly before death, contained a large amount of (?) acetone. Post-mortem examination : A gross, fatty degeneration was found in the liver, which was golden-yellow in colour, and in the heart, kidneys, and spleen. A few sub-mucous hæmorrhages of small size were seen in the stomach. Caseating tubercle was found in one of the bronchial glands, and also in a mesenteric gland. Sections of the liver, heart, muscle, kidney, and spleen all showed an extreme grade of fatty degeneration.

Dr. GUTHRIE asked whether there was any history of cyclical vomiting with acidosis. He believed people who had that were potential victims of post-anæsthetic poisoning. Similar cases had occurred after other anæsthetics than chloroform, but he thought the latter the most dangerous of them. Before operations the patients should be carefully dieted, especially with regard to fats and carbohydrates, and some form of local anæsthetic would seem to be preferable for them. He outlined the various views which had been advanced on the subject.

Dr. J. BLUMFELD remarked that the heart continued to beat when artificial respiration was kept up so long. He did not think the case was one of delayed chloroform poisoning at all. The experimental evidence on the subject was contradictory, and it was still open to say that the anæsthetic played only a small part, and that there was some other factor, the nature of which was not known.

Mr. P. L. MUMMEY said these were very strange cases. The child seemed to have nothing more the matter with it than glands in the neck ; it had a short operation, and in thirty hours it was dead, and its kidneys,

liver, and heart were solid masses of yellow fat. He could not understand how any agent could produce such an astounding result in so short a time. He did not think anything was known which fitted in exactly as a cause.

The PRESIDENT said the idea that the cases were due to fatty degeneration or fatty overloading of the liver and other organs was the most probable, and the anæsthetic might be regarded as the last straw, though how it acted was uncertain. He agreed that the cases were not due to acid intoxication.

Dr. WOODFORDE replied that no history of cyclical vomiting could be elicited; he had been healthy until the enlarged glands in his neck were noticed. He could not say much as to treatment, as the case only came before him from a pathological point of view. The child was infused with a solution of dextrose.

Angiomata of the Left Loin and Leg.—Dr. E. I. SPRIGGS and Dr. J. B. MOLONY.—The patient was a girl, aged 4 years. In the left loin there was an irregularly shaped tumour extending from the eighth rib to $1\frac{1}{2}$ in. below the anterior superior spine and from the mid-Poupart line to the level of the posterior superior iliac spine. It lay superficial to the muscles, and was of a soft, doughy consistence, giving no expansile pulsation or thrill. In the skin over the tumour were numerous small nævi. There was a similar but smaller tumour in the adductor region of the left thigh extending backwards towards the fold of the buttock. On the left leg there were five pigmented swellings along the internal saphena vein, each of the size of a hazel-nut, and a small non-pigmented mass on the inner surface of the left foot. There were also numerous small nævi scattered over the back in a more or less symmetrical arrangement. The condition was present at birth. Except for enlarged inguinal glands on both sides the child showed no signs of other abnormalities.

Congenital Aortic Stenosis.—Dr. C. RIVIERE.—The patient was a boy, aged $5\frac{1}{2}$ years, with no history of rheumatism or "growing-pains." He was of normal size, nutrition, and colour. There were no finger-clubbing and no nodules. On the left side of the neck was the scar of a branchial fistula, which had been successfully operated upon three years ago. The heart appeared to be of normal size, but the impulse was forcible. There was a thrill over the aortic area, but no pulsation. A rough systolic murmur was audible over the whole heart, but of maximum intensity over the aortic area and conducted a long way into the large arteries. The aortic second sound was clear, and there was no evidence of a patent ductus arteriosus. The pulse, 100 per minute, appeared to be rather small and soft.

The PRESIDENT said he showed an older boy at the Medical Society, and, as such cases were uncommon, it was received with scepticism. The boy was then apparently in health, but a month later he suddenly died in the street. He exhibited the heart, which showed pure aortic stenosis.

Lichen Spinulosus.—Dr. J. L. BUNCH.—Some months ago the boy, who was $2\frac{1}{2}$ years old, had an eruption of apparently blackish specks on the chest and later on the shoulders. The lesions present consisted of fine pigmented spines, which could be easily removed, and left definite depressions marking the openings of the follicles, some of which had become infected by staphylococci. There were also some lesions in the groin, but the characteristics of Lichen spinulosus were not so well marked in that situation.

A Paper on the Oculo-Motor Type of Polio-encephalitis was read by MR. SYDNEY STEPHENSON (*v. p.* 145).

The PRESIDENT remarked that it was curious so few of the cases should have been associated with acute anterior poliomyelitis. The recent tendency had been to assume that poliomyelitis and polio-encephalitis were the same disease, varying only in their distribution, and that the inferior polio-encephalitis might be limited to the nucleus of one muscle. He showed such a case a few years ago in which the sixth and third nerves were both affected. He did not know why Mr. Stephenson said the cases were paralytic in type, as opposed to the ordinary type of convergent squint. He would be glad to learn what was the causation and the prognosis. Was it a toxæmia of the nucleus which might be recovered from, or was it followed by atrophy, and therefore incurable?

Dr. BOX said he had for some time thought that a similar explanation to that advanced by Mr. Stephenson might apply to certain cases of facial paralysis. It was not uncommon to see paralysis of the facial nerve in which there was no indication of ear or throat disease. They might be nuclear palsies; and he once saw a case in which there was palsy of the sixth nerve as well as facial paralysis. He criticised Mr. Stephenson's grouping of cases.

Dr. BELLINGHAM SMITH was not sure that Mr. Stephenson had proved his point that the conditions described were polio-encephalitis. He thought there were other conditions which might cause the paralyses. He had noticed that type of squint after a violent attack of coughing in a boy, aged 10 years. He thought it was not polio-encephalitis, but a little hæmorrhage. And sixth nerve injury was common in fracture of the base of the skull. The same nerve was oftenest involved in congenital paralysis.

Dr. J. D. ROLLESTON suggested that the only way to determine the nature of the condition would be experimentally by injecting part of the affected brain into monkeys. Wickman, in his monograph on Heine-Medin's disease, mentioned a pontine form of the disease, in which, as in Mr. Stephenson's cases, the abducens nerve was more frequently affected than the oculo-motor.

MR. STEPHENSON, in reply, said he was satisfied that the cases he had described were not ordinary concomitant convergent strabismus cases. His main grounds for the assertion were—the sudden onset of the squint, and the fact that the squint was paralytic. In determining whether a case was one of paralytic squint, it was necessary to examine the corneal reflex. He did not contend that the group was a homogeneous one, but he brought the paper forward to elicit discussion.

MIDLAND MEDICAL SOCIETY.

THE Sixth Ordinary Meeting of the Session was held on February the 1st, 1911, at the Medical Institute, Birmingham, the President, MR. HASLAM, being in the chair.

A Case of Severe Rickets with Coxa Vara.—MR. GEORGE HEATON showed a girl, aged 7 years, with severe rickets, and also skiagrams of her pelvis, spine, and other bones. The girl was only thirty-four inches high. She had extreme lordosis of her lumbar spine, and had the gait of a patient

with congenital dislocation of the hip. There was marked double coxa vara, the great trochanters being on a higher level than the iliac spines, and movements of rotation inwards and abduction of the thighs were very limited. The skiagrams showed that the neck of the femur on each side was horizontal and curved with a convexity forward. The pelvis, as shown in the skiagram, was extremely oblique, and of the malacostean or triradiate variety—both acetabula being driven inwards by the weight of the body acting on the heads of the femora. Two other children of the same family were the subjects of rickets.

A Case of Acromegaly.—Mr. LEEDHAM-GREEN showed a young girl, aged 15 years, suffering from marked acromegaly. The patient was first noticed to be growing abnormally fast in her ninth year, and was now, although with marked dorsal curvature, 6 ft. 6 $\frac{3}{4}$ in. in height. Her face, hands and feet showed the characteristic changes. A skiagram taken of the skull indicated an abnormally large sella turcica, but there were no ocular symptoms pointing to intra-cranial pressure. The question of operative interference by removal of the pituitary body was raised, but the patient's relatives decided against it.

A Case of Sarcoma of the Kidney.—Dr. WALTER JORDAN showed a girl, aged 2 $\frac{1}{2}$ years, with an abdominal tumour, as a case for diagnosis. For some two months the mother had noticed enlargement of the abdomen, and declared that she could see an increase in the size each week. The child had become slightly thinner since having measles at Christmas, and had lost appetite and been very constipated; she had vomited twice only. On admission to hospital the child was well nourished and healthy in aspect. Constipation was overcome, and an apparently solid tumour was found to occupy the entire left half of the abdomen and reach well over into the right iliac region. The tumour had an irregular rounded edge anteriorly, and was lost posteriorly under the spinal muscles. The colon could be made out crossing it. There was no history of hæmaturia before admission, and there had been none since. Dr. Jordan regarded the case as one of renal sarcoma. No other opinion was expressed.

Specimen of Sarcoma of the Kidney.—Mr. NUTHALL showed a specimen of sarcoma of the left kidney taken from a female child, aged 2 years. A tumour had been noticed for five months before death, which followed on progressive emaciation and weakness. The growth appeared to take origin at the upper pole of the left kidney, and to be distinct from the renal tissue, a capsule intervening, but the upper portion of the kidney was distorted and replaced by the main mass of the tumour. Extending from the hilum of the left kidney were numbers of greatly enlarged retro-peritoneal glands, overlying the spine and reaching across the right kidney and down into the hollow of the sacrum. A peculiar and unusual condition of the mesentery was present: it was solidly enlarged by masses of glands contiguous with, and inseparable from, the adjacent growth in the kidney; in this way the small intestine largely, and the descending colon altogether, were in front of the tumour. The right kidney was enlarged and hydronephrotic, but not involved by the new growth. The left supra-renal capsule could not be found. The right supra-renal capsule was of normal size and shape.

MANCHESTER MEDICAL SOCIETY.

February the 15th, 1911.

Sprengel's Shoulder.—Mr. J. HOWSON RAY showed a boy, aged 4 years, the subject of congenital elevation of the left scapula. A prominent hook-like process of bone presented in the neck, and this was shown to be the superior angle, which was strongly rotated outward and forward, whilst the inferior angle of the scapula was carried inwards to within half an inch of the vertebral spines, and was at the level of the third rib, and was situated two inches higher than the inferior angle of the right scapula. The whole left shoulder was elevated so that the neck on the left side appeared to be obliterated, and the case had been thought to be due to injury with fracture of the coracoid process.

An excellent skiagram of the condition was also presented showing the condition to be entirely congenital and of the commonest type of Sprengel's shoulder.

Congenital Absence of the Right Fibula and the Three Outer Toes.—Mr. J. HOWSON RAY showed a case in a boy, aged 10 years. A skiagram of this case showed apparently only three tarsal bones, viz. a well-formed os calcis, an astragalus, with unusually prolonged neck and head, and the internal cuneiform bone articulating with the metatarsal bone of the big toe, whilst the second toe appeared to articulate directly with the head of the astragalus. The right leg was nearly three inches shorter than the left, and the foot was in the position of talipes equino-valgus.

Sublingual Dermoid Cyst and Enlarged Thyroid Gland.—Mr. HOWSON RAY showed a case in a girl, aged 11 years. The mother stated that the lump had been observed for two months only, but that it had enlarged rapidly of late. The tumour was the size of a large Tangerine orange, projecting beneath the tongue in the floor of the mouth, lifting the tongue so as to interfere with mastication, and at the same time caused a very evident fulness in the supra-hyoid region. The mucous membrane in the floor of the mouth was unaltered in colour and general appearance.

(Operation was carried out two days later by incision in the supra-hyoid region, when the cyst was dissected out completely, and it was found to draw the tongue down distinctly at the foramen cæcum when the tumour was nearly enucleated. The wall of the cyst was thick, about $1\frac{1}{2}$ mm. in section, and the contents epithelial *débris*.)

Head-nodding.—Dr. C. P. LAPAGE showed a boy, aged 11 months, with nystagmus, which was sometimes unilateral, and head-nodding of the antero-posterior type. The child showed signs of rickets, and the head-nodding had been present for three weeks.

Congenital Heart Malformation.—Dr. C. P. LAPAGE showed a girl, aged 13 years, with a rumbling systolic murmur, loudest at the base, but heard all over the chest. A basal diastolic murmur was also present. The X rays showed that both ventricles were large and globular, but that the

chief enlargement was in the auricles, which were very prominent, and in the aortic arch, which was almost aneurysmal.

Total Bilateral Deafness due to Hysteria.—Dr. ARNOLD JONES showed a case of a girl, aged 8 years, healthy and strong in appearance, who went to bed quite well on November the 21st, 1910. Upon waking in the morning she was quite deaf to the human voice. When examined nine days later she was at first apparently stone deaf to the voice and loud noises, but stated that she heard tuning-forks even when they were not resonating. Bone-conduction was entirely absent. There was no history of any previous organic disease, and no signs of congenital syphilis. There were a large mass of adenoids in the naso-pharynx and signs of a slight chronic middle-ear catarrh on both sides. Since becoming deaf she had two "attacks of blindness," transitory in nature, and also had suffered from functional aphonia. On January the 12th, 1911, the adenoids were removed, and during her stay in hospital her hearing was normal. On her return home she again became stone deaf, and had remained so up to date, with some intervals during which the hearing becomes normal.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

March the 2nd, 1911.

Congenital Family Cholæmia.—Dr. ASHLEY W. MACKINTOSH exhibited a case in a boy, aged 7 years, who was admitted into the Aberdeen Royal Infirmary on October the 31st, 1910. He was intelligent, well-nourished, and moderately strong. The skin was slightly jaundiced and the conjunctivæ yellow. At times the jaundice was more intense and the boy then felt drowsy. The mucous membranes were somewhat pale. The spleen extended to an inch below the umbilicus. The liver did not show appreciable enlargement. The urine never contained bile-pigment. It was high-coloured owing to excess of urochrome. The blood showed a reduction of red cells and hæmoglobin. Microcytes and megalocytes were present, especially the former. There was both polychromatophilic and basophilic degeneration. The white cells showed polymorphs 5·8 per cent., myelocytes 4 per cent. The serum gave a reaction for bile-pigment. The Wassermann reaction was negative. There was increased fragility of the red cells to hæmolyzing agents. The boy had been jaundiced since shortly after birth. He had also a sister who all her short life was deeply jaundiced.

Birth Palsy of the Upper Extremity.—Mr. GRAY showed two cases: (1) A boy, aged 5 years. The supinators and radial extensors of the wrist were completely paralysed, while the deltoid, brachialis anticus, biceps and triceps were only slightly affected. The spinati muscles were apparently unaffected. Operation confirmed the diagnosis of complete physiological blocking of the sixth cervical root. There was no trace of the sixth nerve found unless a slight thickening represented the residue of it at the site where it usually joins the fifth. It was obvious that nothing could be done by plastic operation on the upper part of the brachial plexus. Mr. Gray proposed to transplant the tendon of the flexor carpi ulnaris through the

inter-osseous membrane on to the tendons of the radial extensors of the wrists, and thereby to procure both extension and supination at the wrist, which he had previously attained in cases of complete musculo-spiral paralysis by similar means.

(2) Child, aged 6 months. When seen at three months of age it showed the typical position produced by a physiological blocking of the fifth and sixth cervical roots, viz. adduction of the arm, extension at the elbow, flexion and strong pronation at the wrist with extension of the fingers—a frequent position of one surreptitiously receiving a “tip”! The mother stated then that she thought the child was getting a little power in the arm, so mild massage and electrical treatment were prescribed. When shown the child had almost completely acquired full range of movement, although during repose the arm tended to assume the typical position.

Mr. GRAY remarked how difficult it was to prophesy the results in these cases of operative interference on the brachial plexus. In his experience less than 50 per cent. *could* be helped by excision of scar, end-to-end suture of nerves, etc. It was probably best not to interfere by operation in such cases until four months had elapsed. If improvement had not begun by that time it probably would never occur spontaneously.

Sub-periosteal Hæmorrhage.—Mr. GRAY also showed a case of sub-periosteal hæmorrhage involving the frontal and left parietal bones, which, besides presenting the typical symptoms of such hæmorrhage, illustrated the extreme difficulty which sometimes occurs in such cases in distinguishing them from depressed fracture. In this case the effusion had occurred on the third day after injury. There was no history of hæmophilia. Mr. Gray stated that he considered that probably in all cephalo-hæmatomata, and most certainly in cases where doubt as to fracture existed, the best and quickest treatment was incision so as to remove blood or clot.

Philadelphia Pediatric Society.

MEETING, February the 14th, 1911, J. TORRANCE RUGH, M.D., President.

Bacillus Coli Infection of the Urinary Tract.—Drs. CHARLES A. FIFE and GEORGE M. LAWS reported the case of a girl, aged 6 years, admitted to the Presbyterian Hospital September the 9th, 1910. Maternal grandmother, a maternal grand-aunt and three of her children probably had phthisis. Both parents under-nourished. Home and personal hygiene good. Child never strong; three attacks of “cholera infantum”: at least one severe attack of enteritis or entero-colitis every year since. In all these attacks there was much pain in hypogastrium and lumbar regions. Urine at these times said to be foul and occasionally contained blood. In May, 1910, a similar attack; vomiting, numerous bloody, mucous, liquid stools, pains in lower abdomen and back, foul urine, dysuria, little blood in urine. Though the acute symptoms lasted three weeks, the patient had been very languid since, not playing or talking much. In July she had another acute attack, with rigors, vomiting, diarrhoea with blood and mucus, pain in lower abdomen, high fever and prostration. Symptoms subsided in two weeks but recurred in another week, again lasting two weeks. She became worse again when out of bed a few days. All symptoms were referable to the

gastro-intestinal tract with exception of the frequent and painful micturition and the foul-smelling urine. The urinary symptoms were overlooked by the family and medical attendants, typhoid fever being suspected. Eighteen months before admission to the hospital she had an alveolar abscess involving the antrum; this drained for about four months, associated with nervous symptoms suggesting chorea. The nature of the infection was not determined. No history of other infectious diseases. On admission child was evidently toxic; markedly emaciated; pallor decided but of a muddy hue; apathetic, lying quietly curled on one side, without speaking or paying any attention to surroundings. There was no paralysis, but she only ate or drank after great persuasion. No adenopathy; heart and lungs and liver negative; spleen and kidney not palpable; two skiagrams of kidney region negative; abdomen slightly distended; no vulvo-vaginitis; joints normal, reflexes sluggish. Temperature very irregular, ranging from 97.5° F. to 102.2° F.; pulse corresponding, from 80 to 140, and respirations from 20 to 30. No vomiting; no rigors; stools soft, only two or three daily; some mucus; traces of blood in first stool only; no ova, no parasites. Incontinence of urine; amount of urine apparently normal, quite cloudy, purulent odour, strongly acid, specific gravity 1005, traces of albumin, no sugar, no casts, many pus-cells. Hæmoglobin 70 per cent., leucocytes 15,200; Widal negative. There was little improvement during three months upon bland diet and urinary antiseptics. The temperature would subside for a few days, the child becoming less apathetic; she would take nourishment more readily, exercised control of bowels and bladder, gave no evidence of pain; voluntary movements slightly inco-ordinate, suggesting chorea. Eight times in this period, however, there were decided exacerbations; temperature would rise to 103° or 104° F.; apathy increased; anorexia became marked; abdomen became distended, not especially tender, though on one or two occasions there was tenderness over the left kidney region; no diarrhœa, but motions became soft, and contained mucus. Urine became more foul and contained more pus. The amount was apparently not affected but exact measurement was impossible. During these three months the urine was examined every third or fourth day, was constantly acid, and always contained many pus cells and motile bacteria, with an increase in number at the time of the acute attacks. Pure cultures of *Bacillus coli* were obtained from the urine. Urine, stools and sputum showed no tubercle bacilli. The blood was examined seven times, hæmoglobin ranging from 65 to 80 per cent., red cells about 5,000,000, leucocytes from 9500 to 18,000. Differential count was—polymorphonuclears 57 per cent., lymphocytes 30 per cent., large mononuclears 8 per cent., transitionals 1 per cent., eosinophiles 4 per cent. Agglutination test for typhoid and paratyphoid negative. Blood-cultures negative. Von Pirquet tuberculin test negative. On December the 13th, after the temperature had been between 100° and 104° F. for ten days and all the constitutional and local symptoms had been at their worst, an autogenous vaccine containing 50 million bacteria, prepared by Dr. D. B. Pfeiffer, clinical pathologist to the hospital, was injected. Constitutional symptoms were immediately alleviated and the next day the temperature was normal. December the 16th, 100 million, December the 19th, 150 million, December the 22nd, 200 million, and December the 25th, 250 million bacteria were injected. During this period the temperature remained normal and the general condition improved greatly; immediately after the vaccination of December the 25th the temperature rose to 102° F. and the child became listless. December the 28th, though the temperature was subnormal, 30

million bacteria were injected unwisely. Marked constitutional reaction immediately followed, with return of all symptoms except lumbar and hypogastric pains. The temperature became normal January the 9th, and on the 13th 100 million bacteria were injected. Since then she had had four injections of 100 million bacteria each. She has been free from local or constitutional symptoms and the general health has been marvellously improved. She was now running about, playing, eating well, and losing her choreiform movements and gaining weight rapidly. Hæmoglobin was still 70 per cent. The urine still contained many pus-cells and bacteria and gave pure cultures of *Bacillus coli*. The above, with the following cystoscopic examination by Dr. Laws, justified the diagnosis of chronic uretero-cystitis with pyelitis and probably pyelonephritis due to *Bacillus coli* infection. The infection was probably an ascending one.

Dr. G. M. LAWS reported that cystoscopic examination revealed a moderate degree of cystitis involving the trigone. The ureteral orifices were markedly dilated and did not contract. The ureters themselves were dilated and infiltrated so that their intra-vesical portions were distinctly outlined. Flakes of pus were exuding from the left ureter. Ten cubic centimetres of a $\frac{1}{10}$ per cent. solution of indigo-carmin were injected intra-muscularly. The colour appeared at the end of eighteen minutes on the left side and twenty-one minutes on the right, indicating involvement of the parenchyma of the kidneys as well as their pelves. The condition of the ureters was a noteworthy feature of the case, since in an adult, in the absence of urethral obstruction, it would be regarded as strongly suggestive of tuberculosis. Kapsammer had recently stated that dilatation and thickening of the ureter occurred in association with pyelitis when the lesion was due to an ascending infection. A survey of the literature on *Bacillus coli* infections of the urinary tract in childhood disclosed a number of autopsy records, in a large percentage of which a similar condition of the ureters was mentioned. These observations were, therefore, additional evidence in support of the theory that pyelitis was secondary to cystitis in the type of infection under consideration.

Dr. J. F. SINCLAIR said that Dr. Jopson and he had reported a somewhat similar case recently, sent in with the diagnosis of appendicitis. Rigors in pyelitis were of importance in making the diagnosis, since chills were uncommon in childhood.

Dr. D. J. M. MILLER said that infections of the urinary tract must be a great deal commoner than the profession believed. Within two years he had seen three cases of mild urinary infection in private practice. He referred to Friedlander's recent article; he had found girls no more frequently affected than boys. One of his cases, in a boy, followed otitis, another followed measles, and the last colitis, the two last in girls. It was the most common cause of unexplained fever in children, next to otitis media, and should always be borne in mind.

Dr. FIFE said that the condition was probably much more common than was generally believed. He thought that Goppert found evidence of colon infection of the urinary tract in about 1 per cent. of all cases in his clinic. Many observers gave a higher percentage of infection in girls than Friedlander (72.5 per cent.); of Abt's 22 cases, 21 (95.5 per cent.) were females; of Escherich's 11 cases, 100 per cent. were female; of Box's 19 consecutive cases only 1 was a male, and Goppert found 89 per cent. of his cases female. The infection probably ascended through the urethra most commonly, but it might descend in the blood-stream. Direct infection

might occur from the colon to the bladder, but only when the mucous membranes of both colon and bladder were abnormal. Most cases occurred before the age of four years. In this girl, now aged 6 years, the infection might date from infancy.

(*To be continued.*)

Société de Pédiatrie, Paris.

January the 17th, 1911 (*Bulletin No. 1*).

Hypo-alimentation in Infants.—Mme. NAGEOTTE-WILBOUCHEWITCH, continuing the discussion on M. Merklen's paper, stated that the habit of under-feeding had become very frequent among the young mothers of the Russian colony at Paris, students, artists, etc., who adopted scientific formulæ and gave the breast every three hours for five minutes. On the other hand, the poorer Russian Jewesses, guided only by instinct, reared healthy children.

M. VARIOT was glad to have his observations confirmed by those of the previous speaker and M. Merklen. It had been erroneously stated that the vomiting due to inanition (there was no question of hypo-alimentation at this period) had been described by Parrot in his work on athrepsy; but there was not a single passage in the book which justified the assertion. Hypo-alimentation and the disturbance caused by it dated especially from five or six years ago, and were the consequence of ill-founded doctrines prevailing in living-in institutions; in country districts, where the mothers were free from this influence, the infant mortality was under 4.5 per cent. He drew attention to two striking facts: the attitude assumed by these infants was constant; they kept both hands at their mouth with the fingers thrust in as far as possible, which they sucked with avidity—they often slept in this position. He had practised radioscapy on several infants and noticed that the stomach was empty of milk and transparent as if it contained a certain quantity of air; after a bottle this air-chamber was sometimes larger than normal, but in all these cases the spasmodic contraction of the muscular coat nevertheless took place and the stomach eventually assumed its opaque globular aspect. In these circumstances it was probable that the air was swallowed by sucking the fingers; it differed, however, from the aërophagy described by Lesage in that it existed before the ingestion of milk. Probably aërophagy played an important part in causing vomiting.

Congenital Syphilitic Sclerosis and Leucoplasia of the Tongue in Two Brothers.—M. MERKLEN reported this case in two brothers, aged 18 and 22 months, who had also similar anal plaques.

Digestive Physiology and Coprology; Characteristics of a Normal Stool.—M. TRIBOULET.—The objective characters of stools were insufficient to afford precise information. The reaction with sublimated acetic acid was of practical value. With this reagent there was a *normal type* which allowed one to affirm that all was normal in the digestive physiology of a subject submitted to a known diet (milk and hydrocarbons). A deposit at the bottom of the tube, finely granular, with a rose-coloured

homogeneous, turbid, supernatant fluid indicated that, the secretion of biliary pigment being normal, that of the bile-salts must be also normal, and that therefore the stomach, pancreas and intestinal mucosa were functionally perfect. As regards the latter the rose reaction in the tube indicated a physiological participation of the ileo-caecal region, of which the lymphoid masses seemed to be the active agents in the transformation of the bilirubin into stercobilin. If the deposit floated to the top it indicated either mucus (catarrh) or fat (dyscholia or acholia). The normal stool of a breast-fed infant should give an acid reaction, that of a bottle-fed an alkaline.

Arteritis Obliterans and Suppurative Parotitis.—MM. NOBÉCOURT and G. PAISSEAU reported the case of a girl, aged 5 years, who was attacked during a course of a gastro-enteritis with swelling of one leg due to the blocking of the artery from thrombosis or embolism, of such intensity that sloughing threatened. Suppurative parotitis then ensued. These conditions were probably due to a septicæmic condition. Staphylococci found in the pus from the parotid proved fatal to rabbits.

Three Anomalous Cases of Chickenpox.—M. MERKLEN related cases with diffuse adenopathy, torticollis during the invasion period, and pruritus at the onset of the eruption.

MM. TRÈVES and SCHREIBER showed a boy, aged 14 years, with a cutaneous tuberculide which was papillomatous over the foot, gunnatus on the leg, and rupioid on the thigh. Radioscopy showed a thickening of the head of the first metatarsal bone. Wassermann's reaction negative. No sporotrichosis.

VINCENT DICKIN ON.

THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE Seventeenth International Congress of Medicine will meet in London in the summer of 1913. The exact date is to be fixed by the International Permanent Committee, which will assemble for the first time in London on April the 21st and 22nd next, under the presidentship of Dr. F. W. Pavy.

Abstracts from Current Literature.

Medicine.

Cases of tetanus (*St. Thomas's Hospital Reports*, vol. xxxvii, 1908, p. 69).—G. G. BUTLER.—Male, aged 7 years. Date of injury doubtful whether two or five weeks previously. Five spasms on day of admission: these gradually got fewer under treatment. No spasms after being in hospital nine days. Female, aged 7 years. There was a history of four days' illness. No external wound was discovered. There was slight ulceration of one tonsil and one carious tooth as possible sites of inoculation. Spasms occurred on first seven days after admission. Discharged apparently well, but seven months after first onset she was re-admitted with apparent

recurrence. One very severe spasm occurred in hospital. Another recurrence was noted. The case was eventually regarded as functional. The tetanus bacillus was not found in either case. Treatment consisted of intra-theal and subcutaneous injections of anti-tetanic serum, chloral and morphia being given in addition.

JAMES E. H. SAWYER (Birmingham).

A case of infantile tetanus (*'La Clin. Infant.,'* December 15, 1910, No. 24, p. 750).—**Delpent** relates a case where the infection was through the umbilical wound. When seen the child was eighteen days old: had trismus and contractions of the limbs. There was an ulcer at the site of the umbilicus, and the general condition was bad. Ten c.cm. of anti-tetanic serum (Pasteur) were injected into the flank and repeated twice after intervals of two days. Improvement set in after this, the wound healed in six days, and the infant recovered without any further complication.

VINCENT DICKINSON.

Tetanus following vaccination (*'Med. Record,'* 1910, II, p. 811).—**C. D. Scott** records two cases, one of which was fatal, in boys aged 6 and 7 years respectively. The interval between vaccination and the development of tetanus was in each case twenty days. As the normal incubation period for tetanus is from seven to fourteen days, the tetanus infection in all probability did not take place at the time of vaccination, either through the virus or as the result of faulty technique, but about a week subsequently. In both cases the dirty surroundings of the patients made opportunities for secondary infection extremely favourable. Furthermore, in neither of the schools attended by the children, in which a large number of vaccinations were performed on the same days, did another case develop. In St. Louis serious complications following vaccination have been extremely rare. During the past three years, in a total of 30,000 vaccinations these two were the only serious cases, and include the only death which could in any way be attributed to the operation.

J. D. ROLLESTON.

Tetanus following vaccination (*'New York Med. Journ.,'* 1911, I, p. 275).—**B. T. Silverstein** records two cases in a girl aged 9 years and a boy aged 7 years respectively. The incubation period in the one was four days, and in the other two weeks. Infection in the girl's case was probably due to her removing the scab with dirty fingers. Both were treated by subcutaneous injections of tetanus antitoxin, the girl receiving 10,500 units, and the boy 20,100 units, as well as by rectal injections of chloral and bromide. Both recovered.

J. D. ROLLESTON.

Congenital tuberculosis (*'Rev. d'hyg. et de m'éd. Inf.,'* 1910, No. 4, p. 352).—**Wahlen**, in a previous article (No. 3), defended the hypothesis of Baumgarten as to the aetiology of tuberculosis by direct transmission to the fœtus, and states in conclusion that if we want to make any progress in the struggle against tuberculosis, it will be imperative to make a clean sweep of existing ideas on heredity of the soil and contagion. He thinks that we must retrace our steps and examine again Baumgarten's hypothesis, which, in his opinion, has been abandoned for specious reasons and on insufficient evidence. He says that discoveries in the laboratory and the new ideas which some have endeavoured to draw from them have given a false feeling of security, and that what we actually know, to be of real use to us, must be enlarged and reconsidered.

J. E. BULLOCK.

Tuberculosis in children (*New York State Journ. of Med.*, November, 1910, p. 519).—**Goodall** concludes that tuberculosis is a common disease among children. While the path of entrance is almost always through either the digestive or the respiratory tract, congenital tuberculosis is undoubtedly a possibility. During infancy tuberculosis presents a picture altogether different from that seen in adults; the glandular system frequently bears the brunt of the disease; miliary tuberculosis, tubercular meningitis, abdominal tuberculosis, and bone tuberculosis are relatively frequent; marasmus and erythema nodosum may be due to tubercular toxæmia. Pulmonary tuberculosis gives the signs of localised bronchitis, often at the base of the lungs, the râles may be very few, and are often only heard after cough, the classical signs of infiltration and consolidation are usually absent. If the lungs are involved there is usually a rapidly progressing fatal disease. After the twelfth year the lung symptoms approach more to the adult types. A negative von Pirquet test goes far, at any age, towards excluding tuberculosis—that is, if tuberculosis is not far advanced, if the patient is not in a cachectic condition from any cause (a positive reaction may be caused by typhoid fever), and if he has not had measles within a short time. A positive von Pirquet test during the first two years of life is strong evidence of active tuberculosis, as latent disease is very uncommon at that age. In older children a quick, strong von Pirquet reaction usually indicates more or less active disease, while a late or poorly marked reaction indicates latent or inactive disease. In children from six to twelve years of age, with incipient or moderately advanced pulmonary tuberculosis, the prognosis is better than among adults. Finally he urges the great need of outdoor schools and better ventilation in all schools, and State homes for poor children, who cannot be suitably safe-guarded and reared in their own families.

J. E. BULLOCK.

Conditions which simulate phthisis pulmonalis in children (*The Polyclinic*, 1910, p. 93).—**Clive Riviere**.—Pulmonary phthisis in children is not so common as some suppose. At the City of London Hospital for Diseases of the Chest, among 1196 cases of phthisis only 31, or 2·6 per cent., were children of school age, and at the East London Hospital for Children the cases of phthisis were fewer still. Riviere divided cases simulating pulmonary phthisis in children into: (1) Lung conditions: (*a*) physiological conditions, such as blowing breathing at the right apex and in thin children at both apices; (*b*) bronchiectasis and fibrosis, distinguished by the position and nature of the lesions and the general nutrition; (*c*) pulmonary collapse due to bronchial catarrh, nasal obstruction, or both; (*d*) unresolved apical pneumonia; (*e*) tuberculosis of thoracic glands, from which 20 per cent. of living children suffer. (2) General conditions, of which chronic gastro-intestinal catarrh is the most important. Diagnosis must be made by clinical examination, and the use of the specific tests for tuberculosis.

J. D. ROLLESTON.

The diagnostic value of von Pirquet's tuberculin reaction (*Brit. Med. Journ.*, 1910, I, p. 1159).—**Percival Mills**, as the result of investigations in 123 children under twelve, arrives at the following conclusions: (1) Healthy children under twelve do not give the reaction; he found that forty-eight children who showed no evidence of tuberculosis in themselves or in their family history gave no reaction. (2) Tuberculous cases, with rare exceptions, give the reaction. In nineteen children, tuberculosis was proved at an operation or by post-mortem examination or by microscopical examination when not

obvious, definite caseation in lymphatic glands being considered tuberculous. In two cases which gave no reaction there was found on operation to be tuberculous peritonitis in one case; in the other case there was a tuberculous hydrocele. As tuberculous hydrocele is fairly commonly associated with tuberculous peritonitis, it may be assumed that the peritoneum was tuberculous. It has been found that tuberculous peritonitis has always given a negative result with Calmette's reaction, so it may be expected to be negative in von Pirquet's reaction. (3) The reaction is of value in doubtful cases (i) clinically diagnosed as tuberculous (no pathological diagnosis possible). Thirty-four gave the reaction, and the course and termination of the disease supported the clinical diagnosis. Nine gave no reaction; of these, eight eventually proved to be almost certainly not tuberculous; in the remaining case (spinal caries) the reaction may have been misleading. (ii) Clinically doubtful. In eleven cases three gave a positive reaction; of these, two were subsequently proved to be tuberculous, and one was a case of lymphadenoma. The reaction was possibly misleading, but some pathologists have considered lymphadenoma to be a form of tuberculous infection. Eight cases giving a negative reaction subsequently proved to be non-tuberculous. **J. W. BRIDE** (*ibid.*, p. 1161) thinks that von Pirquet's reaction helps (1) the early diagnosis of pulmonary tuberculosis, and distinguishes it from unresolved pneumonia and chronic bronchitis; (2) the early diagnosis of abdominal tuberculosis, and distinguishes it from enteric fever; (3) the diagnosis of the cause of pleuritic effusions. It is not helpful in the diagnosis of (1) tuberculous meningitis; (2) tuberculosis in a child suffering from an acute infectious disease; (3) tuberculosis with much pyrexia.

J. E. BULLOCK.

Influence of various diseases on the von Pirquet reaction (*Münch. med. Wochens.*, November 1, 1910. *Abst. 'Journ. A.M.A.'*).—**Rolly** reports experiences showing that in the course of various infectious diseases the tuberculin skin test may elicit a negative changing to a positive reaction during convalescence even in the absence of tuberculosis. He argues that this is not due to some general immunity process, but rather to local modifications in the skin itself.

T. R. WHIPHAM.

The von Pirquet tuberculin reaction in the non-tuberculous (*'Corresp.-Blatt. f. Schweiz. Aert.'*, November 1, 1910. *Abst. 'Journ. A.M.A.'*).

—**Dumont** states that infants with eczema seem to respond to the von Pirquet test, even when they are apparently free from tuberculosis, and that this sensitiveness to the test is sometimes encountered under other conditions. A second inoculation will generally clear up the diagnosis, as the tuberculous are liable to give a strong reaction the second time, while in the non-tuberculous the response, if present at all, is much weaker. In young infants the skin is sometimes found insensible to the action of tuberculin. In a few cases the child responds with such intensity that ulceration follows, and in lupus cases morbilliform and scarlatiniform eruptions have been described. Animals injected with the blood of such patients, followed by an injection of tuberculin, rapidly succumbed, confirming the assumption that the explosive reaction was due to a specially large proportion of anaphylactic anti-bodies in the patient's blood.

T. R. WHIPHAM.

The value of the tuberculin reaction in the diagnosis of tuberculous conditions in children (*'Cleveland Medical Journal'*, 1910, p. 599).—**W. P. Lucas** reviews the results of the tuberculin reaction as a diagnostic measure

in 548 cases. The subcutaneous test was made in conjunction with one or more of the other tests in 25 cases only, and so is left out of consideration by the author in his review. The ophthalmic reaction was performed in 130 cases and the cutaneous in 418. He had had no bad results with the use of the ophthalmic reaction, an issue which he attributes to the use of mild lotions as soon as a definite reaction occurs. The ophthalmic reaction is not so likely to occur in negative cases as is the cutaneous, but is more likely to occur in acute cases. Cutaneous reactions are the least objectionable, and if properly controlled and judged with a careful physical examination are of definite value. Of the 418 cases tested in this way, 130 were positive clinically. There were positive reactions in 85.2 per cent. of these cases; 14.8 per cent. of them gave negative reactions. There were 108 negative cases clinically, only 9.3 per cent. of which gave a positive reaction. In 174 clinically suspicious cases, 57.4 per cent. gave positive and 42.6 per cent. negative reactions. There were 30 cases of tuberculous meningitis, 20 of which gave positive reactions, sometimes delayed. In the 10 which gave a negative reaction he could make no clinical distinction from the others which gave a positive. There were 14 cases of tuberculous peritonitis, in all of which the reaction was positive. Thirty were cases of pleurisy, of which 20 gave a positive reaction. As regards age, 17 per cent. of the patients were under 1 year old; 35 per cent. were 2 years or under; 62.5 per cent. were under 5; 37 per cent. were between 5 and 12; and 94 per cent. were under 10 years. To compare the different kinds of tuberculin, he used bovine bouillon filtrate, human bouillon filtrate, and Koch's old tuberculin. In supposedly positive cases only 11.6 per cent. gave no reaction, whereas in 58.2 per cent. all three reacted. There were 2.4 per cent. in which reaction occurred with both the human forms, but not with the bovine, whereas there were 27.8 per cent. in which old tuberculin produced reaction, and 7 per cent. in which the bovine and the old tuberculin did so, the human bouillon filtrate failing. In none of these was the bovine positive and the human negative. The series comprised 50 cases of cervical adenitis. In another series comparing suspected pulmonary tuberculosis, bronchitis, and lobar pneumonia, there were only 5 per cent. of positive reactions in lobar pneumonia, but 69 per cent. in the suspected tuberculous cases. Negatively the reaction is of little value. There is no danger in any of the local tests, as out of 500 cases there were practically no systemic disturbances. The comparison of the different forms of tuberculin confirms the view that no differentiation can be made between infection by the bovine and human types of bacillus. It would seem that old tuberculin is by far the best form to use. A study of these results shows that the presence of a positive reaction is to be taken seriously in considering one's opinion of a case in conjunction with adequate clinical examination, but a negative result may mean anything.

FREDERICK LANGMEAD.

Acute infantile encephalitis (*Post-Grad.*, June, 1910, p. 597). — **Comby** says this disease is frequent in the young and occurs even in intra-uterine life, accounting for some cases of microcephaly, porencephaly, etc. It is sometimes primary, or may be secondary to an infectious disease such as influenza, whooping-cough, gastro-enteritis, mumps, pneumonia, diphtheria, etc. The chief pathological change in the affected part of the brain is polymorphonuclear accumulation round the vessels, in the subarachnoid space, and in the cerebral substance. This is followed by a fibrosis. The foci vary in number and extent and may occur in any part of the encephalon.

The onset is vigorous, with convulsions or coma, rarely head-retraction or Kernig's sign. Following this is a hemiplegia with sometimes aphasia. The paralysed limbs have increased reflexes. Lumbar puncture is negative and so excludes meningitis. The paralysis may or may not pass off; the affected parts may become spastic. Convulsions may recur at intervals. Some children remain more or less imbecile. The termination may be: (1) A mild form in which the brain has only been grazed by the toxic infectious processes, leaving sometimes convulsions or spasm and paralytic accidents. (2) A grave form with more severe lesions, leaving paralysis, contractures, and grave psychic mischief. (3) A very severe form, causing death in the acute phase or leaving incurable infirmities, complete or partial idiocy, etc. It has to be diagnosed from toxic convulsions, tumours, hæmorrhages, softening and meningitis. The examination of the lumbar fluid may exclude the latter. The author recommends ice to the head, laxative lavage, vesications to the back of the neck, leeches to the mastoids; to relieve the fever hot baths every four hours or cold packs; light diet. After the acute symptoms have passed away iodide of potassium is indicated, with massage and active and passive movements.

J. PORTER PARKINSON.

Acute bulbar paralysis (polio-encephalitis inferior) ('*Clin. Journ.*' 1910, vol. xxxvi, p. 385).—**Leonard G. Guthrie**.—The patient, a girl, aged 13 years, was taken ill in January, 1910, with headache, vomiting, fainting, and unconsciousness. On recovering consciousness she was unable to speak or to swallow, and was paralysed from head to foot. Seen within the first week, in addition to the bulbar symptoms she showed slight left ptosis, weakness of the lower half of the left side of the face, slight trismus, weakness of the adductors of the vocal cords, motor aphasia, incontinence of urine, and flaccid paralysis of all four limbs. During this critical period she was treated by injections of strychnine and atropine and was nasally fed. Improvement rapidly set in, and eight months after the onset the patient's condition was as follows: In the legs the muscular power was good, but both knee-jerks were still absent. The right leg showed some spasticity and the plantar response on this side was extensor. The left arm was normal, but the right was spastic with increased deep reflexes and weakness in the distal part of the limb. There was still some weakness of the lower part of the left side of the face on voluntary movement only. The tongue could be well protruded and showed no wasting; there was no dribbling, and swallowing was well performed. The palatal reflex was still absent and the voice remained weak and nasal. The vocal cords approximated well. Speech was fluent, but the articulation imperfect owing to the inaction of the soft palate. The speech was, however, improving, and would probably completely recover in time. Of the nature of the illness there was little doubt, but the localisation of the lesions was a matter of difficulty. Evidently at first widespread damage (poli-encephalo-myelitis) was present, but from the character of the remaining symptoms the severest destructive changes were considered to be in the upper part of the pons, just above the nucleus of the left facial nerve, thus causing left facial weakness of the supra-nuclear type and contra-lateral spasticity. The persistent loss of knee-jerks without atrophic changes in the muscles of the lower limbs was regarded as possibly due to a lesion in the ascending tracts of the spinal cord.

REGINALD MILLER.

Acro-asphyxia in children ('*Arch. f. Kinderheilk.*' vol. LIII, Nos. 4-6. *Abst. Journ. A.M.A.*).—**Kartje** has met with four cases of vaso-motor

neurosis in children between the ages of six and twelve. The hands and feet become cyanotic, especially in cold weather, when the child stands, and after long walks. The cyanotic parts sweat to an unusual extent and are hyperæsthetic, while electrical tests produce exaggerated responses on the part of the nerves. Rest in bed and stimulation of the circulatory and nervous systems are indicated. Good results were obtained with the constant current from three to five minutes at a time, the positive electrode being applied to the brachial plexus and the negative to the back of the neck.

T. R. WHIPHAM.

Raynaud's disease in an infant (*Jahrb. f. Kinderheilk.*, July, 1910. *Abst. Journ. A.M.A.*).—Beck reports the case of a child who, when nearly 5 months old, began to suffer from recurring congestion and bluish discoloration of the hands, feet, and ears. In the course of six weeks the cyanosis recurred every day, gradually becoming almost continuous, and gangrene developed in the left hand. At the autopsy the only pathological findings were patches of thickening in the intima of all the arteries of the extremities and in some of the veins of the arms. The brain and spinal cord appeared normal.

T. R. WHIPHAM.

Tetany of the sphincters, involuntary muscles and the heart in infants (*Berlin. klin. Woch.*, 1910, p. 1435).—Ibrahim has observed two cases of tetany in infants, which commenced with spasm of the sphincter vesicæ and severe retention of urine. It was probable that a similar spasm of the sphincter ani existed. Observation of the effect on the pupils favours the conclusion that involuntary muscles are affected with infantile tetany. He cites the statement of Koeppe respecting eclamptic spasm of the involuntary muscles of the rectum. Finkelstein has referred to tetany of the heart in a case of tachycardia. The author points out that sudden death frequently occurs in tetany. In spasm of the glottis children die, not of asphyxia, but of sudden heart stasis. Only in one of these cases was there a status lymphaticus or an enlarged thymus which could account for the sudden death. He thinks that sudden heart stasis is a primary symptom of tetany, as is also spasm of the glottis and other eclamptic symptoms, and considers it a heart tetany. He is not decided whether a stimulation of the vagus or sympathetic or other causes are concerned.

J. E. BULLOCK.

Clonic movements confined to the latissimus dorsi (*Monatschr. f. Kinderheilk.*, Bd. VIII, p. 503).—Muggia reports this case in a girl, aged 13 years. No other muscles were affected. The mother suffered from hysteria, and a sister from chorea. The diagnosis was tic.

ERNEST JONES.

Surgery.

The surgical aspect of tuberculous cervical lymph-nodes in children (*Cleveland Med. Journ.*, 1910, p. 757).—House recommends radical excision. When removal of existing sources of irritation, such as enlarged tonsils, eczema about the head, carious teeth or ear discharge, does not bring about a reduction in size, all evidence of disease must be removed, and the extent of the disease is often more than appears outwardly. The resulting scar is less evident after a transverse incision, but a longitudinal incision along the posterior border of the sterno-mastoid muscle is often necessary for the removal of cervical glands; the incision may be connected with a short trans-

verse incision in the upper or lower triangle of the neck as required. For the removal of submaxillary glands a transverse incision about a finger's breadth below the angle of the jaw is best, in order not to injure the supra-maxillary branch of the facial nerve. The incision should be carried through the platysma and the deep fascia and the parts retracted upwards, carrying the nerve which lies between these structures out of harm's way. In an extensive longitudinal incision care must be taken not to injure the spinal accessory nerve or the internal jugular vein by a careful separation of the glands. To ensure drainage of the wound he allows a few strands of silk-worm gut to protrude from the lower angle of the wound or through a posterior counter-opening.

J. E. BULLOCK.

Walking in congenital dislocation of the hip (*Rev. d'hyg. et de Méd. Inf.*, 1910, No. 4, p. 297).—**C. Ducroquet** first describes the appearance of a normal hip-joint and its action and then gives a study of normal walking. He compares with this the alterations noticed in congenital dislocation of the hip. He draws special attention to the following points: (1) In diagnosis (*a*) whilst taking an X-ray the limbs should be placed in the position of internal rotation so as to bring the neck of the femur well into view; (*b*) the level of the head of the femur at different ages; (*c*) the direction and point of termination of the anterior pubic and posterior ischiac borders of the acetabulum. (2) In causation of the difficulty of walking—the alteration of the length and direction of muscles, especially the gluteus medius; the alteration of the Y-shaped ligament. He classifies the forms of dislocation into unilateral and bilateral, anterior, intermediate, and posterior, symmetrical and asymmetrical. The article is well illustrated with numerous radiographs and explanatory diagrams.

RUPERT FARRANT.

The treatment of congenital dislocation of the hip (*Le Monde Méd.*, 1910, p. 97).—**F. Calot** urges the importance of early diagnosis in the treatment of this malady. After manual reduction he advises the application of plaster-of-Paris for two to three months, fixing the limb in a position of flexion 70° , abduction 80° , rotation 0° ; then in a position of flexion 15° , abduction 35° , internal rotation 60° for another two to three months. This treatment is followed by a course of walking exercises. He mentions a series of 300 cases without a recurrence, and states that in one year to eighteen months after reduction no trace of the deformity remains, the cure is perfect, and lameness has disappeared. He gives numerous diagrams to illustrate his method of reduction.

RUPERT FARRANT.

The operative treatment of congenital club-foot (*Journ. of Amer. Med. Assoc.*, October 1, 1910, p. 1193).—**Ogilvy** is of opinion that corrective manipulation should begin at birth, and that operation, if necessary, should be undertaken early, at the seventh or eighth month. Operative procedures depend upon the degree of deformity, and comprise: (1) Forcible manipulation under an anæsthetic; (2) subcutaneous division of contracted structures; (3) Phelps's open operation; (4) other bone operations, especially excision of a portion of the cuboid in certain cases or osteotomy of the tibia for marked inward rotation. Long-continued and careful attention after all operations is essential.

T. R. WHIPHAM.

Practical points in management of poliomyelitis and its sequelæ (*Med. Record*, 1910, II, p. 657).—**Henry Ling Taylor** remarks on the

occasional occurrence of poliomyelitis in adults, and notes the abdominal paralysis sometimes present. He states that, after six weeks, massage and electricity are useless to aid recovery: otherwise he tells us nothing new. Exceedingly few English orthopaedic surgeons will agree with him on this point.

RUPERT FARRANT.

A case of spastic paraplegia treated by resection of posterior nerve-roots (*Med. Record*, 1910, I, p. 859).—**Moorehead** showed the case of a boy, aged 7 years, before the New York Academy of Medicine. The patient had never walked, and had a typical pronounced spastic paraplegia. A bilateral laminectomy was done, and three roots were divided on each side. Since then the spasticity had been markedly lessened, the reflexes absent, and the general nutrition of the lower extremities much improved. He was now in a position to undergo further orthopaedic treatment.

ERNEST JONES.

Surgical and orthopaedic treatment of Little's disease (*Thèse de Bordeaux*, 1910).—**P. Feutelais** touches on the pathology, ætiology and symptomatology, taking special notice of the varied nature and degree of the cases. Each case must be judged entirely on its merits, stress being laid on the fact that the mental state must be carefully examined before any treatment is commenced. As regards treatment he comes to the following conclusions: Surgical interference should be early rather than late, five to ten years being the most suitable time. Tendon transplantation is to be preferred when practicable to simple tenotomy as relief is obtained to the muscular spasm without contractions of their antagonists. Nerve-grafting should be limited to the upper limbs and only done when movement is almost impossible: division of the posterior nerve-roots and craniectomy are not to be recommended except in the severest cases. Whatever treatment is carried out must be followed by immobilisation and a long course of calisthenics and muscular education. In idiots the results are nearly always *nil*.

RUPERT FARRANT.

Ophthalmology.

Congenital ptosis (*Monatschr. f. Kinderheilk.*, Bd. VIII, p. 720).—**Ibrahim** reports a case of this kind in a girl, aged 11 years. The ptosis was only on the left side; the lid did not rise when the mouth was opened. When she pronounced the vowel *a* with an open mouth there was curious upward movement of the tongue towards the left palate. No other abnormalities were present.

ERNEST JONES.

Amaurotic family idiocy (*Med. Record*, 1910, I, p. 81).—**Goldstein** presented three cases at the New York Academy of Medicine. The children were Jewish girls, aged 1 year; there was no positive family history in any case. The cases were quite typical.

ERNEST JONES.

Note on a case of ocular albinism in a dark-haired individual (*Ophthalmoscope*, 1910, p. 884).—**Ernest Thomson** records a case of this rare condition. A girl, aged 11 years, came under observation because of very defective vision since infancy. The child had dark hair, eyebrows and eyelashes, and a darkish, muddy complexion. It was noticeable at a glance that the pupils did not look black, and investigation showed that the eyes were

perfectly albinotic. In the dark room light from the ophthalmoscope was reflected through the irides; no pigment could be seen in the fundi. There was myopia of approximately 5 D., and nystagmus was present. The family history was negative.

J. ALLAN.

A case of teratoma of the orbit (*'The Ophthalmoscope,'* 1910, p. 864).—**R. H. Elliot** and **A. C. Ingram** record a case in a Hindu female child aged 6 months. At birth a tumour about the size of a small lime was said to be in the place of the left eye, which was not visible. The tumour had grown steadily, and when seen by the authors was about the size of an orange, and relatively to the child's head the growth was enormous. The measurements were 75 mm. from above downwards, 62 mm. from its front surface to the face, and 65 mm. from side to side. The mouth, nose and cheek were pushed to the right side. The skin covering the tumour was stretched, but not involved. The child's general health was good. Examined by transillumination the tumour was found to be translucent in every direction except on the presumed site of the eyeball, where there was a small opaque area. There was fluctuation. The tumour was excised. The pathological report is given. From the examination it is concluded that the tumour is a true filial teratoma.

J. ALLAN.

Primary diphtheria of conjunctiva (*'Arch. f. Kinderheilk.,'* 1910, Bd. LIV, p. 183).—**Montagnon**.—The lesion at first resembled a sty, but formation of membrane on the upper lid soon followed. The face and neck became cedematous and the neighbouring lymph-glands swollen. The temperature was not raised. Bacteriological examination showed diphtheria bacilli. Thirty-six hours after the injection of antitoxin the membrane was deliquescing and the œdema had subsided. Three days later the lesion had entirely disappeared.

J. D. ROLLESTON.

On sloughing corneæ in infants: an account based upon the records of thirty-one cases (*'The Ophthalmoscope,'* 1910, p. 782).—**Sydney Stephenson**, in the course of a long paper, fully discusses this disease. The condition is by no means infrequently met with in certain parts of the world, and is not unknown in this country. The author estimates that keratomalacia is encountered in 1 per 1000 of the eye cases attending a children's hospital in the poorer part of London. It affects children whose ages usually range from three to twenty months, and is especially frequent at about the eighth month of life. It chiefly occurs in children of the poorer classes, and according to Knaebel it is disproportionately frequent in twin children, and illegitimate are more apt to be affected than legitimate offspring. There is a definite seasonal incidence. The disease is much more frequent during the warm months of the year. In London its seasonal incidence closely follows that of zymotic enteritis. Without exception the victims of kerato-malacia are marasmic; the vitality of the infants affected has been seriously reduced by "epidemic" or "zymotic enteritis," congenital syphilis, athrepsia, or tuberculosis, named in their order of frequency. About 50 per cent. of those affected succumb, the immediate cause of death being usually broncho-pneumonia or exhaustion. Blindness results in about one half of the children who survive. The condition is generally bilateral, both corneæ being affected. The first sign to be noted is a slight dulness of the epithelium in the lower part of the cornea, but the disease quickly spreads, and in bad cases the entire cornea becomes converted into a

soft, greyish-white, pulpy slough, resembling damp wash-leather. At first there is very little inflammatory reaction, but later well-marked panophthalmitis, as a rule, supervenes. Xerosis of the conjunctiva is associated with this affection in about 50 per cent. of the cases. If the baby's nutrition cannot be improved the cornea is likely to perforate. There are two conditions which may cause some confusion in diagnosis: (1) Keratitis xerotica (Feuer), and (2) tropho-neurotic keratitis. Keratomalacia is associated with no specific micro-organism, although in scrapings from the cornea the pneumococcus may be found in about one half of the cases. Treatment must be both general and local. The general treatment is that, broadly speaking, suitable for marasmus. The proper feeding of the infant is of great importance. In the author's opinion the giving of alcohol in the form of brandy is most useful. Cod-liver oil has a distinct value, especially if given by injection. Neat's-foot oil is more economical, and is apparently quite as valuable as cod-liver oil. If syphilis be present mercury must be given. Mercury with chalk, $\frac{1}{2}$ to 1 gr. three times daily, should be given, and each dose may be usefully combined with $\frac{1}{2}$ gr. of bicarbonate of sodium and 1 gr. of aromatic powder of chalk. Mercurial injection should also be practised. The local treatment of the eyes will include the frequent use of douches of hot saline or boric lotion. Antiseptic drops frequently instilled were most serviceable; of these, argyrol, 15 to 25 per cent., quinine (4 gr. of quinine sulphate to the ounce of distilled water, just enough sulphuric acid being added to ensure a clear solution), and hydrogen peroxide are the best. Physostigmine ($\frac{1}{2}$ per cent.) in vaseline or oily solution should be applied. In certain cases surgical measures may be required. In an appendix notes on the thirty-one cases are given, and at the end references to the literature on this subject.

J. ALLAN.

Treatment.

The use of Marpmann's serum in scarlatina (*Giorn. Internat. delle Sci. Med.*, September, 1910, No. 18, p. 817).—**A. Montefusco**, professor of infectious diseases at the University of Naples, contributes a paper in which, after reviewing the results of the treatment of scarlatina by anti-streptococcic serum, he points out that Marpmann's serum is prepared on entirely different principles. Marpmann endeavoured to obtain the toxin of scarlatina from the blood and other organs of persons suffering from this disease, and to reproduce the infection with the extracts thus obtained and inoculated into guinea-pigs and rabbits. He noticed that after the inoculation of a small quantity of blood taken from a patient, after a variable time—from one hour and a half to twenty-one days—the animals were seized with a general infection which resulted in death, while the few that survived presented violent febrile symptoms. The same results were obtained with an emulsion of cutaneous scales. The result was only positive, however, with scales taken at the time of full desquamation: those taken during efflorescence gave no result. The urine also gave similar results. From these sources Marpmann extracted a toxin with which he immunised animals and obtained a curative serum which he claims to contain a specific antitoxin, innocuous, and which does not cause either intoxication, cutaneous eruptions or nervous disturbance, and which retains its activity for at least two years. It is a faint yellow, opalescent liquid, with a saline taste, has a neutral reaction, and contains albuminoid and alkaloidal substances. It is given by the mouth in doses of three to five drops every two hours to children up to ten years of age, and

in proportionate doses to older children. Prof. Montefusco administered it in thirty-six cases of scarlatina, with three deaths, *i. e.* 8·3 per cent. One of the fatal cases, however, should be excluded, as it died twenty-four hours after admission. The mortality is thus reduced to 5·7 per cent. If a case which died of acute nephritis several days after the scarlatina had recovered, the mortality would be reduced still further to 2·9 per cent. On the other hand, the mortality of cases which were treated without serum was 15·8 per cent. This would seem to indicate the beneficial action of Marpmann's serum, but a closer examination shows that this conclusion is not justified by the facts. Classifying the thirty-six cases according to their gravity at least twenty-eight of them were mild cases, which would have recovered without any active treatment. The two fatal cases, excluding that one which was moribund on admission to the hospital, would equally have had a fatal issue under any treatment. This leaves five cases, which were undoubtedly severe, and which recovered under Marpmann's treatment, but whose cure could not conscientiously be attributed entirely to the serum, since every physician sees seemingly desperate cases of infectious disease recover. The criterion by which the efficacy of a serum must be gauged is that deduced from the modifications which the serum produces on the clinical manifestations of the disease, or its course and complications. Now, the author's cases show that although Marpmann's serum is innocuous, it neither modifies the temperature, the exanthem, the sore throat, nor glandular enlargement, nor does it shorten the duration of the disease, improve the general condition, nor procure freedom from complications at any stage. There is therefore no evidence that such a serum has any specific action on scarlatina or exercises any favourable influence on its course or result. An anti-scarlatinal serum has therefore still to be sought for.

VINCENT DICKINSON.

Report of five cases of tetanus, and remarks on the treatment of the disease (*Med. Record*, August 13, 1910, p. 262).—**Charles D. Fox.**—Of these cases two occurred in children. Case 2 was a girl, aged 9 years, who ran a splinter from a fence rail deeply into her calf-muscles. Twelve days later trismus appeared. Three days later, when she first came under treatment, her condition appeared hopeless as she had marked and constant opisthotonos, and, at intervals of a few minutes, severe general tonic convulsions, with symptoms of asphyxia. The wound was freely opened, cleansed, and deeply cauterised. In the first twenty-four hours the patient was given 1 gr. of morphine sulphate hypodermically 45 gr. of chloral, 120 gr. of bromides, 40 minims of tincture of cannabis indica, 60 c.c. of anti-tetanic serum, and chloroform and oxygen in unknown quantities. The serum was injected into the sciatic, anterior crural, and obturator nerves. The patient died from asphyxia caused by a convulsion at the end of the first twenty-four hours of treatment. It is remarkable what large doses were tolerated in a girl of 9 years, and no ill-effects could be attributed to the administration of the drugs. Case 4 was a boy, aged 12 years, who ran a nail a short distance into his great toe. Four or six days later trismus appeared, and then opisthotonos developed so that the patient was unable to lie on his back; yet there was little tendency to tonic convulsions. At first he was given subcutaneous injections of increasing doses of a saturated solution of magnesium sulphate in addition to subcutaneous injections of anti-tetanic serum. Magnesium sulphate was administered by the intra-spinal route on two occasions on consecutive days and then this treatment was abandoned. After giving 27,000 units of anti-tetanic serum

during the first two days without any improvement this treatment was discontinued. He was given 10 gr. of chloral and 60 gr. of sodium bromide every four hours. Improvement began slowly after five days and the hypnotics were gradually withdrawn, so that at the end of four days all medical treatment was discontinued. Subsequently the symptoms gradually improved, and he was discharged perfectly well thirty-three days after admission. During the height of the rigidity the patient exhibited scarcely any stupor in spite of the large doses of chloral and bromides that were administered, but during the withdrawal of these drugs increasing stupor became apparent, which gradually disappeared during the course of twelve or fourteen days. The author lays stress on the prophylactic treatment of wounds, as he considers it of far greater importance than the treatment of the disease after it has developed. Treatment of tetanus by means of anti-tetanic serum is discussed, and statistics are given showing that the mortality is only slightly reduced by its administration. Probably the most common mode of administration is by means of a combination of subcutaneous and intra-spinal injections. Baccelli's treatment by means of subcutaneous injections every two or four hours of a 2 per cent. solution of carbolic acid seems to be unsatisfactory except in Italy. Subarachnoid injections of 1 to 2 c.c. of a 25 per cent. solution of magnesium sulphate have had beneficial results. When employing this treatment it is necessary to make use of morphine, bromides, and chloral, and it is advisable to administer serum. Treatment on these lines seems to offer the greatest chance of cure.

JAMES E. H. SAWYER (Birmingham).

Tetanus successfully treated with magnesium sulphate (*Med. Record*, 1910, II, p. 720).—**C. D. Fox**.—A boy, aged 12 years, eleven days after running a splinter into his right hallux developed symptoms of tetanus. In spite of injections of anti-tetanic serum and hypnotics he continued to get worse. On the fourth day of disease 2 c.c. of a 25 per cent. solution of magnesium sulphate were injected into the spinal canal. No immediate effects were observed, but four hours later both upper and lower limbs became almost completely relaxed. About the seventh day gradual improvement set in and the serum was discontinued, and finally complete recovery took place. Of the 60,000 units of anti-tetanic serum 24,000 had been given intra-venously, 12,000 intra-spinally, and the remainder subcutaneously.

J. D. ROLLESTON.

Treatment of congenital syphilis with "606" (*Medical Record*, No. 25, 1910, p. 1085).—**Kakels** reports several cases of congenital syphilis treated by the direct and indirect methods. Among the former were two cases of interstitial keratitis, in children aged 9 and 12 years respectively, which had failed to improve under mercurial treatment. Rapid improvement was noticed in each case after injection of 0.15 gm. of "606." In a third case improvement in hearing and mental intelligence and cessation of nasal discharge was noted after injections of 0.3 gm. of "606" in a child, aged 9 years, who was suffering from deafness, mental weakness, and a foul discharge from the nose. A fourth case was treated by the indirect method, through the mother's milk. The infant, aged 4 weeks, had typical signs of congenital syphilis, with spirochætes in the skin lesions, but neither parent showed signs of syphilis. However, all three gave a positive Wassermann reaction. The mother was injected with 0.3 gm. of "606," but the infant died ten days afterwards. Contrary to

what has been stated in other cases treated in the same way, arsenic was found in the mother's milk. The author remarks that "as the mother had no manifest lesions the unsuccessful result might be explained by the fact that sufficient anti-bodies were not formed when "606" was incorporated into her system, which could be transmitted to the child through her milk."

Politzer (*New York Med. Journ.*, No. 5, 1911, p. 209) also reports two cases of interstitial keratitis which cleared up after injection of "606." In one case, aged 13 years, two injections of 0.1 and 0.25 grm. were given; in the second case, aged 12 years, 0.3 grm.

C. F. MARSHALL.

The treatment of congenital syphilis in sucklings through injection of the suckling mother with Ehrlich-Hata "606" (*Berlin. klin. Woch.*, No. 1, 1911, p. 13).—**Peiser** reports two cases of congenital syphilis which died after injection of the suckling mother with "606." The first case, an infant, aged 8 days, was severe and of bad prognosis. Both mother and child gave a positive Wassermann reaction. The mother was injected with 0.5 grm. of "606." The child rapidly became worse and died of pyæmia two weeks after the injection. Post-mortem examination revealed no spirochætes. The second case, a child, aged 7 weeks, was of a milder type and of good prognosis; yet this child died of broncho-pneumonia nine days after injection of the mother with 0.4 grm. of "606." In this case abundant spirochætes were found in the suprarenals. Peiser remarks that both infants died of secondary infection, an event which should not occur with proper anti-syphilitic treatment, especially when the infant is suckled by the mother. He also mentions another fatal case of congenital syphilis treated in this way reported by Rosenthal, and three cases in which the treatment failed to prevent relapses in the child reported by Escherich. Peiser concludes that the treatment of congenital syphilis by injecting the suckling mother with "606" is not to be depended upon.

C. F. MARSHALL.

"606": Indications and contra-indications, methods of employing, and doses (*Revue Générale de Clinique et de Thérapeutique*, No. 53, 1910, p. 823).—**Jeanselme**.—In the course of his instructive contribution to the subject of "606," the author refers incidentally to two cases of infants at the breast treated indirectly through the mother. There are instances on record in which this has answered admirably, but in Jeanselme's two cases the results were distinctly disappointing. In the first one the infant developed a macular syphilide soon after its mother had been injected with "606." The eruption was followed by Parrot's paralysis, which immobilised one of the upper limbs. The infant became rapidly emaciated and cachectic. There is no doubt the child would have died had not Jeanselme had recourse to mercurial treatment. As to the second case, the infant presented a few mucous patches and a discrete exanthem at the time its mother was injected with "606." Instead of receding, the syphilitic symptoms became worse. In this instance again Jeanselme had to fall back on mercury, which rapidly led to improvement. This shows, once again, that "606" may have surprises in store. I do not desire to undervalue "606," on the contrary, but these two cases, recorded by such a careful observer as Jeanselme, are worth bearing in mind.

GEORGE PERNET.

Reviews of Books.

OXYPATHIE. By Prof. WILHELM STOELTZNER, Director of the University Poliklinik for Diseases of Children in Halle a. S. Pp. 92, with 16 charts. Berlin: S. Karger, 1911. Price M. 3.60.

THIS very suggestive monograph details the symptoms and discusses the pathology of a morbid state which has long been recognised by the profession as a clinical entity, and to which a number of names have been given. In France, for example, it has been termed "arthritisme," and in England and America "lithæmia." The "exsudative diathesis," which Prof. Czerny, of Strassburg, has recently written about, is said also to be practically the same thing. Prof. Stoeltzner regards the condition as one in which the power of the body to eliminate inorganic acids—especially phosphoric acid—sufficiently has been lessened by alimentary or constitutional causes, and he proposes "oxypathie" as a more convenient and suitable name than any of those already in use.

Oxypathie may be present at all stages of life, and the author traces its working, under a variety of conditions, in childhood. He describes, for example, a form of infantile atrophy caused by feeding with cow's milk. This he attributes to the excess of phosphate of lime in the milk being decomposed, in the presence of cream, the lime combining with the fatty acids, and a sort of phosphoric acid poisoning resulting. When butter-milk is given such a decomposition does not take place, because little or no cream is present. If, again, an alkali is added to a milk mixture which contains an excess of phosphate of lime, even with cream, no "oxypathie" occurs, owing to the alkali combining with the phosphoric acid which is set free. It is interesting to find that, although Prof. Stoeltzner has, like Wright and Poynton, obtained excellent results from the use of sodium citrate in infant feeding, his explanation of this success is quite different from theirs. He puts it down entirely to the neutralisation of the phosphoric acid derived from the cow's milk.

Another very important effect of "oxypathie" in young children is a predisposition to eczema. The author holds that eczema has both a general predisposing and a local exciting cause, and he believes that, while the latter may need some further local treatment, the former is often removed by giving the patient a sufficient amount of citrate of soda.

In older children this chronic phosphoric acid poisoning is regarded as also responsible for a variety of other maladies. Such well-defined morbid states as lichen urticatus, bronchial asthma, periodic vomiting and migraine may be caused by it, and it may also produce such less definite symptoms as pallor, capricious appetite, irritability, and sleeplessness.

The remedy which Prof. Stoeltzner chiefly recommends in the treatment of "oxypathie" is citrate of soda in doses of 60 grs. and more in the twenty-four hours. For older children a large amount of fresh vegetables and fruit in the diet is most beneficial, and in all cases open-air exercise is very important.

Prof. Stoeltzner's work is evidently the result of much thought and wide reading, as well as of a varied clinical experience, and it is full of suggestive ideas. It proposes explanations of a number of familiar clinical facts which have hitherto been quite obscure. Whether these explanations will stand the test of further experimental investigation by the physiological chemist

remains to be seen. In the meantime, however, even if they are not always convincing, they certainly arouse stimulating thoughts and form very interesting reading for the physician.

JOHN THOMSON.

TRAITÉ DES MALADIES DU NOURRISSON. By Dr. A. LESAGE. Paris: Masson et Cie. Price 10 francs.

THE author begins by mentioning the obstacles to maternal nursing, and the methods of treating them. Over 150 pages are devoted to the normal life of the infant and especially to the digestive functions; we are surprised that in speaking of the supra-renal glands he considers their *rôle* extremely small considering their comparatively large size in the foetus and infant. In discussing whether milk should or should not be sterilised he says that, though most of the French children are fed on sterilised milk, scurvy in infants is exceedingly uncommon in France.

In discussing the feeding of infants with cow's milk, he states, we think incorrectly, that many English medical men employ the American method of prescribing an artificial mixture of fat, sugar, casein, and water: we do not think that this method is much used at present. He sums up the difference between infants fed upon the breast and the bottle by saying that though the latter may appear in every way as healthy as the former, they are much more affected by infantile ailments such as whooping-cough or measles, and there is no better criterion of health than resistance to disease. Hereditary syphilis is considered in a somewhat brief way, especially as regards treatment, and the same remark applies to the treatment of tuberculosis. The digestive troubles and diarrhoeas of infants are well described. Broncho-pneumonia receives a very inadequate notice, only seven lines being given to its treatment; as the death-rate of this common disease in infants under one year is nearly 50 per cent. we look upon it as one of the most important diseases of infancy.

Congenital heart disease is much more adequately discussed. Post-basic meningitis is not distinguished from cerebro-spinal. The author considers that all cases of scarlet fever should be treated with anti-diphtheritic serum as the bacillus of Loeffler is frequently found in the throat. Measles and the other acute specifics which attack the infant are succinctly described.

We consider this book will well repay perusal, and will be very popular with the general practitioner and with those who have to deal with the care and the diseases of the young infant.

J. PORTER PARKINSON.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY: TWENTY-FIRST SESSION. Edited by LINNÆUS EDFORD LA FÉTRA, M.D. Vol. xxi. Reprinted from 'Archives of Pediatrics,' 1909-1910. New York: E. B. Treat & Co.

THIS volume contains a large number of valuable papers, most of which have been abstracted in this JOURNAL. As of special interest we may mention the following: "Spasmodic Stricture of the Oesophagus," by L. E. La Fétra; "The Urine in the Gastro-intestinal Diseases of Infancy," by J. Lovett Mase and B. Crothers; "The So-called Thymus Death, with an Account of Seven Cases of Sudden Death in One Family," by J. P. Crozer Griffith; "Pneumococcic Infection," by Walter Lester Carr; "Congenital Stenosis of the Duodenum," by R. G. Freeman; and "The Bacteriology of Acute Infections of the Respiratory Tract in Children, with Especial Reference to Influenza," by L. Emmett Holt.

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Original Articles.

A LONDON SCHOOL CLINIC.*

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At the Second International Congress in School Hygiene, Dr. Cronin gave an optical demonstration of the benefits attained by the children of New York from medical treatment at school. His demonstration and paper convinced all the sensible people in the audience, of which I was one, of the necessity of giving children in England the like opportunities for physical improvement.

Shortly after the Congress a system of medical inspection of schools was established for Great Britain; a number of persons were, I think, satisfied with this recognition of medical work in the educational field. But if I may judge from the impressions gathered from conversation, and from meetings addressed in many parts of the kingdom, the teachers of all grades and others officially connected with education, such as managers of schools and members of care committees, were profoundly dissatisfied that the doctor's work was limited to inspection. The complaint constantly heard was—"What is the use of telling us how many children have bad teeth or bad eyes or adenoids? We have known that for a long time. If

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you can't remove these ills you doctors will only be a nuisance in the class-rooms."

Now, so far as the future possible prevention of many of these troubles among school-children is concerned, this impatience is not quite justified. The doctor's knowledge, when he has attained it and when it has been made actual, will be of much use in preventing the recurrence of such physical defects as are due to faulty methods in education.

Medical inspection is really a form of preventive treatment; it is prophylactic in a sensible way—I say sensible because some medical men, in their zeal to prevent disease, propose such rigid armour-proof laws for healthy living as to make illness comparatively a joy.

Medical inspection boldly understood may do well enough for the unborn children of the next generation or the one after, but it will not help those in whom we are after all most interested—the children going to school just now. For the sick amongst them we require a means the easiest and simplest discoverable to rid them of their troubles. As a sequel to inspection we must have medical treatment.

I cannot speak with any confidence as to the requirements of school children outside my own land, but for these I can say there does not exist any efficient means for the treatment of the diseases and defects recorded by medical inspection.

The existing agencies are—(1) the private doctor; (2) the voluntary hospital.

I must leave out of reach altogether the dispensary and club doctors; having been myself a club doctor, and having a pretty intimate acquaintance with the system, I leave it aside because it can only be regarded as a method of distributing pills and harmless medicines.

The private practitioner does not meet the case because in England—I shall put it quite bluntly—the people receive an insufficient wage to pay the doctor decently. These defects, which we are especially considering, require prolonged or skilled treatment, or both. Some diseases may require treatment for months; other diseases, such as ringworm, may require special instruments; defects of sight require accurate testing. If the doctor is willing to take very low fees because the patients are very poor he is doing so out of charity, to which, in particular cases, I have no objection, but if it were to be made into a system, then there is, it may be said, nothing so degrading and demoralising as organised charity.

The next agency for treatment is that of the voluntary hospitals,

which is, as a system of organised charity, open to the objection in principle to which I have already alluded.

There are other considerations which make this means difficult and expensive. In London and most of our big towns the hospitals are central—grouped round a small central area, whilst the schools and the children are every day extending centrifugally. A journey to the hospital means: (1) Much loss of time to the parent; (2) much loss of time for the child; (3) much loss of time for the teacher; (4) considerable expense.

For well-to-do persons it often seems most reprehensible when the mother says she has no time to take her child to the hospital. But consider what it means: the mother of a working-class child, even if she does'nt go out to work herself, is a *working woman*; she has no servants and nurses to look after the other children in her absence, to cook the meals and do the housework, she doesn't send the washing to the laundry, so that it is often most difficult for her to find a day which she can give up to taking her one child—she keeps putting it off, expecting next week that she will be less busy, or that her mother or sister will come and look after the house.

It means loss of time for the child and the school; I have known children wait from nine in the morning till three in the afternoon to see the doctor, even when sent up in charge of a nurse who knew her way about. In the case of testing for glasses this may not be very intolerable, as it means only one or two visits, but if the complaint is something more chronic the child may go on every week or fortnight for some months. Moreover, in many cases the hospital doctor has no control over the carrying out of treatment; he will prescribe a lotion for a case of discharging ears, but he cannot see to it that the syringing is carried out regularly and efficiently.

There is a further serious objection—these cases are not welcomed at the hospital. There are too many of them, they are not exciting. The hospital physician naturally wants, in return for his gratuitous attendance, a fair sprinkling of novelties that will awaken his curiosity.

In proof that these agencies have not been of any avail I can cite you the Bradford experience, where Dr. Crowley stated that, despite medical inspection existing for fifteen years, the majority of children remained untreated.

It was by way of bringing out a closer connection between medical inspection and its treatment in London that Miss McMillan started a school clinic.

As an outcome of my own experience in connection with such

a clinic, when we received all the children sent to us, I find that certain classes of cases are unsuitable for such treatment.

We were able to do little for the very delicate children, for those suffering from severe anæmia, from enlarged glands, chorea, pulmonary tuberculosis and heart disease. Such cases need open-air treatment, careful feeding, and a suitable course of instruction, physical and mental. I will not say that many did not benefit: I think they did. We were able to recommend many for special feeding and cod-liver oil; two or three we did manage to send away, through the kindness of friends, to convalescent homes or other places; we were able to warn the teachers and to recommend afternoon rest for many. But all this obviously does not require school clinics; all this is what Dr. Kerr and others understand by medical inspection. The cases for which clinic treatment is especially adaptable are:

Eye defects, external or internal, ear discharges, skin diseases, including ringworm, adenoids, enlarged tonsils, and other causes of mouth-breathing, dental diseases, slight curvatures, and similar deformities.

The clinic at Poplar was in one way distinct from any other so far established in England, inasmuch as it was directly connected with a school—in the school itself. The clinic at Bradford represents one form of clinic which one may call the centralised—the children coming from all the schools to be treated at the one centre. At Poplar our clinic room was the schoolroom of the headmistress of the infants' schools, and was intended for the treatment of the children attending the Devizes Road School. Classification is vexation, I admit, and inasmuch as at the Poplar clinic we treated, later on, children from the neighbouring schools, the clinic could not be said to be the exactly opposite type to Bradford. In London, I think, it will be found best to have several local clinics receiving the children of adjacent schools. (It is with such a clinic I am connected at Deptford.)

The history of the Bow clinic is brief and not inglorious. The moving spirit was Miss Margaret McMillan, whose pioneer work in education, especially on the physical side, has never received fitting acknowledgment. The next generation of Britons will, we hope, reward the genius of this twentieth century educationist. The medium was Mr. Joseph Fels, through whose generosity the clinic was started. The Committee for promoting the physical welfare of children undertook all the clerical work of organisation, and Miss Grant, the headmistress of the infant school, gave untiring assist-

ance. The London County Council showed its interest by helping us in several ways.

Miss Grant gave up her private room for the clinic, which the London County Council rented to the Committee at one shilling a year. By arrangement with the London County Council the medical officers of the clinic were not to treat any children who had not previously been medically inspected by one of the Council's medical officers; nor to carry out any operations on the school premises. We have to thank Dr. Kerr and Mr. Tyrrell, who was the medical inspector, for giving us every possible assistance.

After Mr. Tyrrell had notified the names of children requiring treatment the following circular was sent round to the parents:

LONDON COUNTY COUNCIL.

DEVON ROAD, L.C.C. SCHOOL,
BOW AND BROMLEY.

The London County Council has received an offer from the Sub-committee formed by the Committee for the Promotion of the Physical Welfare of School Children to provide medical examination and treatment for children attending elementary schools who may require the same, free of cost to their parents, at a room in the above-named school, which has been leased to the Sub-committee, and fitted up by them for the medical examination and treatment of children.

It is the opinion of the Council's medical officer that it would be in the interests of the health of your son/daughter that he/she should receive medical advice and treatment. If, therefore, you desire your son/daughter to receive such advice and treatment at the hands of the Sub-committee in question, or persons engaged by them for the purpose, will you fill up and return to me the enclosed form, when the necessary arrangements will be made with the Sub-committee with a view to his/her receiving such advice and treatment.

You will understand that the Sub-committee in question is in no way connected with the Council, and that in forwarding your son's/daughter's name to the Sub-committee and providing facilities for his/her medical examination and treatment by the Sub-committee, the Council accepts no responsibility in the matter.

The form referred to was signed by the parents, and we were then ready to treat the children.

I ought to mention that we received no refusals for treatment.

The mothers were asked to attend if possible at a given hour, and in most cases they came with the children the first time, a large number coming subsequently also. Cards were made out for the children of each class or set of classes notifying to the teacher the hour when the children should come up—2.15, 2.30, and so on. The infants were first seen, then the girls, and finally, the boys.

The medical staff consisted of a nurse, Dr. Tribe, and myself. Dr. Tribe attended on Thursdays; my day was Tuesday. The nurse for whose services we were indebted to the Fern Street

Settlement was a most essential, or the most essential, part of the staff. She attended on the days when the clinic was opened, and received from the doctors directions for the treatment of each child.

The treatment was carried out during the mornings at school, when the ears were syringed, eye-drops instilled, and so on, and after five o'clock at the Settlement, where many of the children came for a second application of treatment, or for the first time. At the clinic eyes were tested, ears and throats received any special applications that might be required. All cases requiring operations had to be sent to the hospitals. By interviewing the mothers ourselves or through the nurse we succeeded in getting most of the cases submitted to operation with fair promptitude. Being in direct touch with the parents, seeing the children week after week, we were able to give suggestions about food, clothing, play, and air, to repeat our injunctions and see that they were really carried out.

I think I can claim it as a success that the parents were anxious for advice, that they followed it out, that they often sent their other children, whom we could not, of course, see until the Council's medical officer had passed them. Through the nurse and teachers we got most useful hints about the children; we find out that Bessie was not wearing her glasses, and I may say so eager were the children to come to our department that we held over them as a punishment the threat not to see them next week if they did not follow our directions.

The work entailed the minimum interference with the school; no child was absent longer than twenty minutes from his class after the first examination, and usually much less. Such difficulties as arose were due chiefly to the experimental nature of our work. All are welcome; all seats free had perforce to be our rule. It was gradually that we found out that cases such as have been mentioned did not receive much benefit from the clinic. It must be remembered that the area was a very poor one, nearly all casual workers, and the winter of 1909 a very bad one, with unemployment at its maximum; a large number of the fathers out of work, and a large number of mothers out trying to get jobs, so that our proportion of ill-fed children was high, despite the milk, etc., they had received for many years, through Miss Grant's School Settlement, without which aid the conditions would have been certainly much worse.

Owing to the conditions of our employment we had sometimes an insufficient number of new cases, for we were bound to wait till the medical inspector could see the school.

The clinic was opened on December the 8th, and partially closed on June the 7th, when we started a clinic at Deptford.

The following table gives the details of the cases treated :

Illness.	No. treated.	No. cured or improved.
Discharging ears	49	39
Adenoids	34	27
Nasal discharge	3	3
Eye diseases (including spectacles)	84	75
Skin diseases	69	66
Anæmias	58	32
Tuberculosis	13	6
Other diseases	28	16
	<hr/> 338	<hr/> 264

Out of 338 cases, 264 have improved or been cured, and in most cases it was one of skin disease, eye disease, ears, etc. Among the remaining 74 there are to be reckoned the children who removed from the school during the treatment, a few incurable cases, such as complete atrophy of an eye, some of the severe anæmias including, probably, cases of pulmonary tuberculosis, seven cases of glandular and pulmonary tuberculosis, and the cases of heart diseases. Among the other diseases the cases that improved or were cured are those of chronic intestinal disease, the cases of post-influenzal debility and so on. We were most successful in treating skin diseases and eye diseases; the ears took a long time, but when we were able to get them syringed twice a day and with the aid of general tonic treatment the majority were eventually cured. Some of the children were sent to hospital for operation.

The anæmia cases we tested by their increase in weight and improvement in colour and activity.

The children requiring operation were sent with cards and in charge of the nurse when possible to the hospital.

Among the cases operated upon was one of congenital cataract in both eyes; one eye has improved—I do not yet know the result in the other eye.

As an instance of the possibilities of a school clinic let me quote the case of one child: Ethel B—, aged 8 years, suffering from croupous conjunctivitis, for which she had been attending the hospital for eleven months receiving lotions and ointment. This child was seen at Deptford. The nurse, treating the child daily with a solution

of silver nitrate (10 gr. to the ounce), cured her in a week. I have in mind another charming little girl, aged 5 years, who had been suffering for a long time with discharge from the ears; her external ears and face were covered with patches of eczema set up by the discharge. Her teacher described the child as sullen. She had had intermittent syringing for a long time without effect and the mother had given it up in despair. Assiduous syringing by nurse was carried on for ten weeks, once a week chromic acid was applied, and then glycerine of tannic acid. A complete cure was the result. There is no discharge, no eczema, and no sullenness.

All the teachers gave us gratifying accounts of improvements in the children's habits, manners, and school work who had been treated.

Nor was the work without general effect upon the whole school. The first batches of cases we had, whatever else was the matter with them, were certain to have verminous heads. Through nurse and mother we got rid of this trouble; now the school is a clean one; there was not a child with a verminous head last June in that school.

The other children had taken the lesson home and the mothers had felt put upon their mettle, without any fuss, imprisonment, or compulsion, but simply through the offer of free treatment to see to it that their children had neither vermin nor nits in their heads.

This is the way, and in my opinion the only way, in which parents will awaken to their responsibilities. Threaten them with all kinds of compulsion, with fines, etc., and the normal human being will rebel at such coercion; offer them free treatment and facilities and you will soon find no loss of the sense of responsibility.

This is one among other reasons why I urge that treatment shall be free and easy. After several years of such facilities having been offered it will be time to talk of prosecuting parents who will not have their children operated upon for adenoids or will not let them wear spectacles. It is intolerable, I consider, to commence with such threats, especially when, as at present, it is extremely difficult and burdensome for treatment to be obtained.

Personally, I think it would be more disastrous were medical men to act as policemen and detectives than for them to allow children to grow up with bad sight and bad hearing.

At the recent meeting of the British Medical Association in London I was greatly astonished at hearing several doctors announce their intention to prosecute parents who did not agree with the doctor's

diagnosis or treatment; for instance, if the parents refused to have their children operated upon for adenoids or who did not want their children to wear spectacles. Certainly no doctor would think of prosecuting well-to-do parents who refused to follow his advice; the innovation seems very dangerous. For an old-fashioned practitioner like myself the term "parental cruelty" must not be stretched beyond common-sense and its traditional use among men. The whole question of the treatment of defects like those of the teeth or of vision is one of such recent growth that one must wait until knowledge, now the privilege of a few, is the heritage of the many.

At the Deptford clinic, which has just been opened by Miss McMillan, after an arduous and self-sacrificing struggle, we have been able to profit by past experience. Here we shall be able to carry out dental treatment sanctioned by the County Council; Dr. Tribe is treating diseases of the skin and nose and mouth, while I am attending to eye diseases. The services of a most excellent nurse have enabled us to do the work. Miss Riddell is carrying out remedial drill, post-operative cases, spinal diseases, etc. We have in the Deptford schools many cases of curvature, of cramped limbs and bad feet that require individual care. It is in these directions that the next work of the school clinic lies; another outcome of the clinic will be in dealing with infectious diseases. Dr. Williams, of Bradford, has shown how the control of notifiable infectious diseases in schools through the clinic may be effected. Out of 365 children examined 94 proved to be in an infectious condition and unfit for school attendance.

In these several ways the control of infection, the cure of physical defects, whether of speech or limbs, of vision or hearing, the school clinic will serve the interests of the children in a manner which I believe to be otherwise impossible.

Note on Deptford school clinic.—During the first six months, June to December, 1910, the total number of cases treated was 1049, as follows:

Defects of vision	273
Eye disease	167
Ear „	112
Throat „	208
Nose „	20
Skin „	104
Spine	12
Anæmic and debility	45
Some acute diseases	14

202 INHERITED SYPHILIS AND BLUE SCLEROTICS.

Injuries	17
Various	77
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Total	1049
Cured, sent to hospital, or no treatment necessary	795
Still under treatment	254
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Total	1049

This does not include the dental cases; the clinic was opened for dental treatment in November. Miss McMillan makes the following estimate of the cost:

Nurse	115
Doctors ($2\frac{1}{2}$ days per week)	100
Dentist (whole time)	300
Teacher	50
Caretaker	40
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	£605
Rates and taxes	12
Drugs	20
Sundries	20
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	£657

Allowing £43 for rental, the total expense would be £700. Over 2000 children can be treated by the medical staff yearly, working two half-days a week, and at least 3000 children by the dentist working full time. With a full-time medical staff the cost per child would be, of course, less than it now is.

INHERITED SYPHILIS AND BLUE SCLEROTICS.*

By J. D. ROLLESTON, M.D.,

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A MALE infant, aged 5 months, an only child, was admitted to the Grove Hospital for nasal diphtheria on November the 15th, 1910. The father had contracted syphilis about six years previously, and had undergone only a few months' treatment. Six months after

* Case shown at the Royal Society of Medicine (Section for the Study of Disease in Children) on March the 24th, 1911.

marriage and one year before the baby's birth the mother developed "a poisoned lip," probably a hard chancre, of which the scar is still visible in the centre of the lower lip. Its real nature does not seem to have been recognised, as she received only local treatment on seeking advice at a hospital.

When three weeks old the baby lost all power in his left arm, but recovered the use of the limb in the course of a month without specific treatment, and when six weeks old had "thrush at both ends," which was probably mucous tubercles in the mouth and round the anus.

Condition on admission.—Atrophic, fair-haired infant, weight 8 lb. 7 oz., constantly crying. Marked prominence of scalp veins, bulging forehead, umbilical and right inguinal hernia. Crusts in right nostril from which diphtheria bacilli were cultivated. No eruption. Spleen and liver not enlarged. Heart normal.

Both sclerotics show a uniform pale blue coloration; irides grey, embryontoxon at the margin of each cornea.

During the child's stay in hospital the blue coloration of the sclerotics was more obvious on some days than on others.

The mother, aged 27 years, a woman of fair complexion, presented an almost identical condition of the sclerotics, but the coloration was somewhat deeper, more nearly approaching a leaden hue.

An arcus senilis was present in each eye. Beyond occasional smarting on exposure to wind and lacrymation following prolonged accommodation, her eyes had not caused her any trouble. She stated that her sister, a fair-haired girl, aged 16 years, presented the same condition, as did also their grandmother, now dead. Their two brothers, aged 37 and 22 years respectively, were not affected.

The child's nasal diphtheria cleared up under 4000 units of antitoxin, but diphtheria bacilli persisted in the nose until February, 1911. Four days after admission periostitis of the upper end of the left ulna developed, but subsided in a few days after administration of hydrarg. c. creta gr. $\frac{1}{2}$ *bis die*. Beyond some erosions round the anus and paronychia of the right ring finger nothing further of note occurred until January the 12th, 1911, when the left arm was found to present the flail-like attitude characteristic of Parrot's syphilitic pseudo-paralysis. On palpation the arm was found to be excessively tender, and definite crepitus was felt at the junction of the upper and middle third of the humerus. The temperature was 101° F. for two days, and then became normal.

The limb was put up for a fortnight in a cardboard splint, and the mercury, which two days before the fracture had been reduced

to gr. $\frac{1}{4}$ *bis die* owing to loose stools, was increased on January the 21st to gr. $\frac{1}{2}$ *b.d.* and on February the 4th to gr. $\frac{1}{2}$ *ter die*. On January the 28th when the splint was removed there was good union, and well-marked callus was felt. Active and passive movements were free. Subsequent recovery was uneventful, and the child was discharged in good health on March the 9th, 1911.

The principal features of interest in the case are the extra-genital infection of the mother, the spontaneous fracture of the humerus in the child, and the condition of blue sclerotics in three generations. Although no Wassermann's reaction was performed, the history of the case and the position of the scar made it practically certain that the lesion on the lip had been a chancre.

Spontaneous fractures, or, to use Broca's more accurate term, "pathological fractures," are comparatively uncommon in syphilis, especially fractures of the shaft as distinct from separation of the epiphyses, and still more exceptional is it for the fracture to be limited to a single bone instead of the lesions being multiple, as in most of the recorded cases. This was probably due to the adoption of specific treatment, as shortly after admission, before mercury had been given, the child developed periostitis of the ulna, thus indicating that the osseous system showed a special tendency to be involved.

The symptom of persistent crying, to which attention has recently been drawn by Comby and Sisto as a phenomenon of inherited syphilis, was probably due to pains in the bones.

The occurrence of the fracture during mercurial treatment was probably due to the doses being too small, as rapid recovery ensued on increase of the dose.

The case is illustrative of the favourable course of pathological fractures in inherited syphilis, provided suitable treatment is adopted. All authorities now hold this view, but Parrot, who first described syphilitic pseudo-paralysis, regarded it as a very unfavourable sign as all his cases died.

If the history could be trusted the same arm had already been affected when the child was three weeks old, and recovery had taken place without specific treatment. A similar case of spontaneous recovery from syphilitic pseudo-paralysis has been recorded by Cadet de Gassicourt, and Gouez has collected five other cases in which improvement occurred before mercury was administered.

It should be noted that the humerus is the most frequent site of pathological fractures in syphilis, as it was affected in twenty-two out of sixty-four such cases collected by Frangenheim.

The condition of blue sclerotics as a congenital disease was first described by von Ammon in 1841 in the following terms : " Congenital diseases of the sclerotic are rare. . . . Of importance is a peculiar whitish-blue coloration of this membrane occasionally met with, when the whole development of the eye is retarded. The sclerotic in such cases appears thin and almost transparent. I have seen it also in congenital hydrophthalmos. . . . Similar thinness occurs in patients suffering from congenital heart disease. In that case the sclerotic is dark blue, this being due partly to the thin condition of the membrane and partly to an accumulation of venous blood and a large mass of pigment in the eye."

Von Ammon's description is accompanied by two illustrations (Tab. xv, figs. 2 and 3), the first representing the blue coloration in a case of congenital hydrophthalmos, and the second in a case of congenital morbus cordis.

After von Ammon little notice seems to have been taken of the anomaly until 1903, when Dr. Leslie Buchanan, of Glasgow, described a case in a girl, aged 9 years, whose left eye he examined after excision for an injury. He found that the cornea and sclerotic were unusually thin, the cornea being three fifths and the sclerotic one third of its normal thickness. Histological examination showed that the fibres of the cornea and sclerotic were of about normal size but unusually few in number. The anterior elastic lamina was entirely absent.

In a paper entitled " A Congenital Anomaly of the Sclera : Pseudo-coloboma," to which Mr. Sydney Stephenson has kindly drawn my attention, Dr. Percival J. Hay, of Sheffield, in 1907, described a condition resembling that under discussion, but differing from it in that the thinning of the sclerotics, instead of being uniform and symmetrical, was in the right eye represented by a triangular area on either side of the cornea, and on the left confined to an area on the temporal side only. The case occurred in a still-born child, the subject of many other congenital deformities. There was no family history. It was not till 1908 that the hereditary transmission of blue sclerotics was first mentioned. In that year A. Peters, of Rostock, recorded cases in four generations. Four of his patients showed a typical embryotoxon. Peters regarded the condition as due to an abnormally thin or abnormally transparent sclerotic. In 1910 Mr. Sydney Stephenson described the condition affecting twenty-one out of thirty-two members belonging to four generations of one family. In his cases, as in mine, the inheritance was through the females, and the complexion in general was fair.

In two cases the presence of an arcus senilis or an embryontoxon was noted. Subsequent investigation enabled Mr. Bishop Harman to add another generation to this family, so that a total of fifty-five members was reached, of whom thirty-one showed the same congenital peculiarity with individual differences.

It did not occur to me that there was any connection between the pathological fracture of the child's humerus and its blue sclerotics until, while looking up the literature on abnormalities of the sclerotic in the Surgeon-General's Index Catalogue I came across a paper by Dr. Eddowes, entitled "Dark Sclerotics and Fragilitas Ossium," where he described some cases running in families in which the two conditions were associated. Dr. Eddowes suggested that the transparency of the sclerotics indicated a want of quantity or quality in the fibrous tissue forming the framework of the various organs of the body, which therefore accounted for the want of spring and toughness in the bones. Dr. Eddowes has kindly informed me that he never even suspected inherited syphilis in his cases.

Possibly the deficiency of fibrous tissue in the present case as manifested by the blue coloration of the sclerotics may have been a contributing factor together with syphilis in the production of the fracture. There was, however, no history of fragilitas ossium in any other member of the family.

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ACUTE PYELITIS DUE TO *BACILLUS COLI COMMUNIS*
AS A COMPLICATION OF CONGENITAL HYDRO-
NEPHROSIS.

By FREDERICK LANGMEAD, M.D., M.R.C.P.,

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DR. JOHN THOMSON,* in his recent paper on acute pyelitis due to *Bacillus coli* as it occurs in infancy, describes twenty-five cases which he has met with in practice during the last fifteen years. He lays great stress on the absence of local signs in this condition, and, in fact, in no case in his series was there more to be found by abdominal examination than some ill-defined tenderness and resistance. Since Dr. Thomson's paper is the most important contribution to the study of this disease in infants under two years of age, perhaps it may be worth while to put on record the following case of an infant in whom the local signs were a very prominent feature.

I first saw the patient, a boy, aged 6 months, with Dr. Morrish, of Streatham, on February the 7th of this year. The history was as follows: Until the age of four months, when weaning was started, he had been quite well, except for troublesome constipation. Afterwards he had been improperly fed, groats having been given in addition to milk and barley-water, and occasional vomiting and abdominal pain and distension ensued, though not sufficient to make the baby seriously ill or cause perceptible wasting. He was a strong, healthy baby. Two days before, serious vomiting had started and had continued.

When examined he was seen to be a well-nourished infant, but showing all the appearance of severe infective vomiting.

The eyes and fontanelle were somewhat sunken and the skin inelastic. There had been no diarrhoea, nor had blood or mucus been passed by the bowel. The temperature was 100° F. The abdomen could be easily palpated, but no tumour was felt on this occasion.

The stomach was washed out, and small doses of calomel, followed by a rhubarb and soda mixture, administered. After the lavage the vomiting entirely ceased. The bowels were constipated at first, but after the calomel had been used, large, pale, semi-digested motions were passed.

* John Thomson, 'Quart. Journ. of Med.,' 1910, iii, p. 251.

Urine was voided freely. Three days later, however, the baby was more febrile, the temperature ranging from 102° to 103° F., and next day (February the 11th) he became increasingly drowsy.

On February the 12th I saw him again because of the drowsiness. Now, he had lost the appearance of collapse, but was very restless and apathetic, and obviously poisoned. Abdominal examination revealed rigidity, tenderness, indefinite fulness and dullness in the right iliac region, extending back to the loin. To examine this region more easily in order to arrive at a diagnosis an anæsthetic was given, and when the abdominal wall relaxed a tumour could be felt. It reached above almost to the level of the umbilicus and forward beyond the linea alba, whilst it could be traced into the loin behind and to Poupart's ligament below. The greater part of the tumour was dull. Its rounded anterior and upper margins could be easily defined. By a finger in the rectum it could be felt bulging into the pelvis, and fluctuation could readily be obtained between this finger and the hand on the abdomen. As the temperature was 103° F. and the tumour was evidently a fluid one, the condition appeared to be a large intra-peritoneal abscess.

A few hours later Mr. Arthur Edmunds explored through an anterior abdominal excision. The tumour then proved to be a greatly dilated renal pelvis and ureter, the condition of the latter explaining the presence of the fluctuating protrusion felt by the rectum. As the baby was desperately ill it seemed advisable to postpone opening the renal pelvis for the present. A specimen of urine obtained by a catheter was found to be very turbid and foul, to contain a heavy deposit of pus, and to be teeming with organisms belonging to the *Bacillus coli communis* group. No casts were present. It was strongly acid. Two days later, the child having survived the operation, but being still very poisoned, lying with eyes open in a state of coma-vigil, the kidney was opened and drained by the retro-peritoneal route. Both the kidney and the ureter were still distended with turbid urine. A finger inserted into the kidney enabled the greatly dilated thick-walled calices of a congenital hydronephrosis to be felt.

The baby continued to become more and more unconscious—although he still passed water and drained freely—and died on February the 17th, twelve days after the onset of definite illness. After the first operation he had been treated medicinally with a combination of urotropine and alkalies.

This case teaches, firstly, that one cannot rely upon the absence of local signs as a means of diagnosis of *Bacillus coli communis*

infections of the renal pelvis in infants, for a very large fluctuant swelling was obvious; and secondly, that in any case of disease in infancy which is at all out of the common, a specimen of urine is essential, obtained by catheterisation if necessary.

A CASE OF STOKES-ADAMS' DISEASE IN A BOY, AGED 15 YEARS.

By ARTHUR J. CLEVELAND, M.D., M.R.C.P.,

*Honorary Physician, Jenny Lind Hospital for Children, Norwich; Honorary
Assistant Physician, Norfolk and Norwich Hospital.*

THE patient was admitted into the Norfolk and Norwich Hospital under my care on August the 13th, 1910. He had always been delicate, but his health had been worse during the last four or five years after an illness which might have been typhoid fever. Four years ago he was in the Jenny Lind Hospital for Children, Norwich, for a "bad heart" and since that illness has suffered from "fainting attacks." For the five weeks previous to admission he had been in the Workhouse Infirmary for a bad heart.

Condition on admission.—He is undersized, weighing 4 st. 2 lb., but intelligent, although he gazes in front of him with drooped eyelids in a listless manner, which gives the impression that he is half-asleep or mentally deficient. His colour is good and he has no dyspnœa. His pupils react but little and sluggishly to light and accommodation, and when told to follow the movements of one's finger his eyeballs have apparently about half the normal range. His field of vision and discs are normal.

On admission his pulse-rate was 30 per minute, his temperature 95·4° F., his respirations 24, and he was rather collapsed. He was given a hypodermic injection of strychnine, and after getting warm in bed soon improved. Next morning his pulse-rate was 36, temperature 98·4° F., and respirations 24. There was nothing abnormal to be detected in his respiratory, alimentary, or nervous systems. His urine had a specific gravity of 1010, was acid, free from sugar, and contained a trace of albumin. There was no evidence of syphilis. The heart apex-beat was normal in position, and there was no increase of the superficial cardiac dulness. At the apex there was an occasional mid-diastolic murmur and the first and second sounds were short and sharp. He was kept in bed on fish diet, and

although his pulse-rate never rose above 36, he seemed to be improving until August the 29th. He then had an attack of faintness in the middle of the day, his temperature being 96° F., and his pulse-rate 30-40. On the morning of the 30th his pulse-rate was 16, the temperature 96° F., and respirations 20, but he was quite conscious and not distressed. The pulse-rate remained at 20 or less during the day.

On August the 31st he had several "fits" in which he lost consciousness for a few minutes and passed urine. In the course of an hour he had four of these attacks, on which the following note was made: "When the 'fit' starts the patient makes a slight groaning noise, becomes very pale and cold, loses consciousness, and appears to be dying. There are no convulsive movements, and he recovers without any paralysis. During the attack there is no apparent change in the pulse, but as he recovers this quickens and he becomes flushed. After recovering consciousness he seems unable to speak for some minutes. The attack lasts about three minutes." On one occasion the pulse-rate immediately after an attack was 120.

These attacks seemed to distress him very much and apparently caused pain, although he made no complaint of any definite pain. His breathing did not seem to be in any way disturbed by them and he never had any dyspnœa. On September the 1st he was very ill, the pulse often being very feeble and slow.

On one occasion the heart-beats counted with a stethoscope were 10 per minute, and once no heart-beat could be detected for thirty seconds. The veins of the neck were distended but showed no pulsation.

He continued in this condition until September the 2nd, when he died at 2 a.m.

At the post-mortem examination no valvular disease of the heart could be made out, although the edges of the mitral valve looked a trifle thicker than normal. There were several whitish patches in the endocardium of the left ventricle and similar ones in the aorta. The heart weighed 9½ oz., and the left ventricle was hypertrophied. No naked-eye lesion of the muscle could be detected. The other organs were normal in appearance. Microscopically the patches in the aorta were seen to be due to fatty degeneration, and those in the ventricular endocardium consisted mostly of fibrous tissue the result of inflammation. The heart-muscle was normal.

Erlanger's experiments have shown so clearly the nature of heart-block, and the phenomena of the curious disease first described so many years ago by that shrewd observer, Stokes, that it is

unnecessary to comment on the case of whose clinical history I have given a short account. I believe it is very rare to find this disease in one so young, and it is also unusual for the pulse-rate to fall as low as 10 per minute even in severe cases.

London and Provincial Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, March the 24th, 1911.

Dr. E. CAUTLEY, *President, in the Chair.*

Infantilism with Chronic Nephritis and Polyuria.—Dr. H. MORLEY FLETCHER.—Boy, aged 6 years, is said to have not grown since the end of his first year. He is said to have always passed a large amount of urine, and to have taken large quantities of fluid (at four months as much as 4 pints per diem). Breast-fed one month, afterwards cow's milk. No other illnesses. Has one sister aged 4 years, who is healthy. Mother had one miscarriage; she has phthisis.

The patient is very small, height 2 ft. 7 in., weight 21 lb. He is wearing clothes made for him when he was two years old. Intelligence very good. Teeth carious. Eyes natural. Heart and lungs normal. Abdomen large and somewhat distended, kidneys palpable (? enlarged). Blood-pressure, 75 mm. Hg. Double genu valgum. Testicles undescended. Passes from 40 oz. to 70 oz. of urine per diem; the average daily amount for the last three weeks was 59 oz. He drinks about $3\frac{1}{2}$ pints daily. Urine usually colourless, occasionally slightly opalescent; specific gravity 1005; reaction neutral; 0.16 per cent. albumin, granular casts occasionally present, no glucose, pentose, acetone, or diacetic acid. Much indican present. Cammidge reaction negative. Cryoscopic examination, -0.4 C. Blood examination, Wassermann's test negative.

He has had occasional rises of temperature, probably due to ear trouble. He has gained only 3 lb. in weight during three months' hospital treatment, but no increase in height. The stools have always been normal. Administration of thyroid extract has had no effect.

The case is regarded as one of infantilism, associated with, or due to, chronic renal disease, dating from intra-uterine existence.

Infantilism with Thyroid Inadequacy (Juvenile Myxædema).—Dr. H. MORLEY FLETCHER.—The patient, a girl, aged 8 years, developed normally for the first two years. She walked and talked at the usual age. The labour was easy, and the mother in normal health at the birth of the

child. The seventh of nine pregnancies, all the children alive now, except the third. Has had measles and pertussis in her second year. Pale, puffy, serious, rather old-looking face. Abundant hair, scalp scurfy. Skin dry and rough. Is very quiet, but takes an interest in her surroundings. Mental processes slow. Has been under thyroid treatment for nearly three months, and has considerably improved; she is more lively, and the skin is less dry, but she has not grown. Weight, $24\frac{1}{2}$ lb. Height, 33 in.

The cases were discussed by the PRESIDENT.

Inherited Syphilis and "Blue Sclerotics."—Dr. J. D. ROLLESTON.—Male infant, only child, aged 9 months. Father infected five years before marriage; had only a few months' treatment. Six months after marriage, and one year before the baby's birth, the mother developed "a poisoned lip," probably a chancre, of which the scar is still visible, and had only local treatment. When three weeks old the baby lost all power in its left arm, but recovered use of limb in the course of a month without specific treatment. "Thrush at both ends" when six weeks old. When aged five months it was admitted to Grove Fever Hospital for nasal diphtheria. Condition on admission: Atrophic, fair-haired infant; weight, 8 lb. 7 oz.; constantly crying. Marked prominence of scalp veins; forehead prominent; umbilical and right inguinal hernia; crusts in right nostril; no eruption; spleen not enlarged; well-marked, uniform blue coloration of both sclerotics; irides grey; embryontoxon at margin of each cornea.

The mother, and mother's sister, both fair-haired, present the same condition. The maternal grandmother, now dead, is said to have been similarly affected. The mother's two brothers are not affected.

The nasal diphtheria cleared up under 4000 units of antitoxin, but K.L.B. persisted till the following February. November the 19th: Swelling and tenderness of upper end of left ulna; hydrarg. cum creta, $\frac{1}{2}$ gr. *b.d.* November the 23rd: Periostitis subsided; some erosions round anus. January the 9th: Paronychia of right ring-finger. January the 12th: Cries when left arm is touched, limb flail-like; temperature, 101° F.; stools loose. Hydrarg. cum creta reduced to $\frac{1}{4}$ gr. *b.d.*, and pulv. Doveri $\frac{1}{4}$ gr. added. Undiluted citrated milk ordered. January the 14th: Left upper arm swollen; crepitus felt at junction of upper and middle third of humerus; temperature, 101° F.; arm put up in cardboard splint. January the 16th: Temperature, normal. January the 21st: Hydrarg. cum creta increased to $\frac{1}{2}$ gr. *b.d.*, and subsequently to $\frac{1}{2}$ gr. *t.d.s.* on February the 4th. January the 28th: Splint removed; good union; well-marked callus felt; active and passive movements of arm free. February the 11th: Callus no longer felt. Subsequent recovery uneventful.

On its discharge on March the 9th, 1911, the child was in good health, weighing 13 lb. 10 oz. The persistent crying soon ceased after the exhibition of Hg.

Mr. SYDNEY STEPHENSON, Dr. PARKES WEBER, and Dr. F. W. HIGGS discussed the case.

Simple Atrophic Type of Myopathy.—Dr. F. E. BATTEN.—Boy, aged 6 years, is the eldest of four children, the others of whom are said to be healthy. He had pneumonia when one year and four months old, and is said to have had one fit a month later. He has never been able to walk, always weak, perfectly clean in habits, intelligent, and talks well. All movements of face and eyes are well performed. His arms and legs are

thin, there is general wasting without localised atrophy or hypertrophy. Almost all movements can be performed so long as no strength is required. There is no winging of the scapulæ, the grasp is fair, and the forearm muscles are relatively stronger than the proximal muscles, but this is accounted for by the less work they have to do. The boy can stand, but cannot walk without support. He can raise himself into a sitting position, but can only climb into an erect position with the aid of a chair, and when standing he has marked lordosis. The boy shows most marked hypotonia; he can be "folded up" so that the trunk lies parallel to the legs. His feet and hands can be dorso-flexed to an unusual angle. The knee-jerks are present. The plantar reflex is flexor. Sensation is perfect. Electrical examination shows a marked diminution to faradic stimulation, but no polar change.

The simple atrophic type of myopathy is characterised by smallness, lack of power and tone in all the muscles of the body without localised atrophy or hypertrophy of individual muscles or groups. This case illustrates these features well.

Progressive Spinal Muscular Atrophy of Infants (Werdnig-Hoffmann).—Dr. F. E. BATTEN.—Girl, aged 1 year and 9 months, the second of two children, the mother and father being healthy. The first child, a boy, died at the age of eight months of broncho-pneumonia. He was said to have been very loose in the limbs from the time of birth. Patient was born at the seventh month, and was delicate for four months. She was said to kick about a good deal up to six months old, and appeared fat and healthy. She was said to be able to sit up at seven months, but was not encouraged to do so. At seven months she was able to talk a few words. Since she was seven months old she has gradually got weaker and more helpless, and this weakness is said to have increased since October, 1910, and she cannot now lift the head off the pillow.

When seen in June, 1910, she was unable to sit up, had weakness of the back, and could make no attempt to stand. All the deep reflexes were absent. The Mongoloid appearance of the child was noticed. She was placed on thyroid, $\frac{1}{2}$ gr. twice a day, and improved, and is noted as "much improved" in October, 1910. The bowels had been constipated. She takes food well, and as she lies in bed appears quite healthy. The child is fairly nourished. She is happy and contented, says little words, and takes notice of all that goes on. She hears and sees well, and as far as is possible obeys commands. The palpebral fissure is small and oval, and this gives her the appearance described as "Mongoloid," but there is no obliquity of the eyebrows outward, the skin is quite soft, the head of normal size, and the tongue smooth, so that there is nothing to suggest the child is a Mongolian idiot, though the term "Mongoloid" is justified. The head measures $19\frac{1}{2}$ in. in circumference. The incisors, canines, and first molar teeth are all present. The movements of the eyes, tongue, jaw, and lips are normal. The optic discs are normal. There is nothing wrong with the heart, lungs, or abdominal viscera. The chest is long and narrow, and on inspiration the intercostal spaces sink in, and it is clear that respiration is carried on by the diaphragm alone, which acts vigorously. The abdominal muscles are weak, but not completely paralysed.

If the child is placed in a sitting position the head falls forward, backward, or sideways; the neck muscles being powerless, the back becomes bent, and there is no power in the trunk muscles, either to flex or straighten

the back. When placed flat on the bed, however, the spine is perfectly straight. The arms lie, as a rule, flexed at the side of the chest; the child can make little movements with the fingers, and can grasp objects feebly. She can just flex the elbow and pronate, but not supinate the hand. The forearms are more or less fixed in position of pronation. There is no power of movement in the shoulder muscles. The legs are almost powerless, there is practically no power of flexion of the hips or knees, but there is a little power in flexion and extension of the ankle and toes. The hamstrings are contracted so that the right leg cannot be fully extended. The limbs are thin, and the muscles are wasted, but this wasting is to a considerable extent covered up by the subcutaneous fat. The loss of tone in the muscles is very considerable, but the feet cannot be flexed over the shoulders, nor can the arms be crossed behind the child's back, positions which are possible when the hypotonia is marked in a child. Sensation to ordinary stimuli appears unimpaired all over the body. The knee-jerks, ankle-jerks, and all the deep reflexes are absent. The abdominal reflexes and plantar reflexes cannot be obtained. The sphincter ani is normal. The electric reaction shows complete loss of response to faradism in all the paralysed muscles, but the muscles of the hand respond normally. The child bears a very strong current without evincing any signs of pain. In short, the child has an almost complete flaccid paralysis of all the muscles of the neck, trunk, and limbs, the muscles of the face, eyes, and diaphragm alone remaining normal.

The cases were discussed by Dr. GUTHRIE and the PRESIDENT.

Syphilitic Osteitis of the Femur.—MR. P. MAYNARD HEATH.—Boy, aged 7 years. Twenty-two months ago he was struck on the left thigh by a large stone. He was not confined to bed by the accident, and remained well until three months ago, when the thigh began to swell. He was then noticed to limp in walking. There is a diffuse bony swelling of the left femur, involving the whole length of the shaft, but most marked at the junctions of its upper and middle thirds. The surface of the bone is smooth, and the muscles are not involved. No other bones are affected. The boy shows no other signs of congenital syphilis. He is the fourth child out of seven, of whom the two eldest died at twenty-four hours and three weeks respectively. The father had syphilis twenty years ago. He says he was treated with three mercurial pills daily for six months, and then with a solution of mercury for more than a year subsequently. The skiagram shows diffuse osteitis of the whole shaft and neck of the femur.

The case was discussed by Mr. KELLOCK, Mr. LOCKHART MUMMERY, the PRESIDENT, and Mr. BEDDIES.

Deformity of the Cervical Spine.—MR. P. MAYNARD HEATH.—Girl, $2\frac{1}{2}$ years. The mother had noticed a lump in the back of the neck for five months. The child carries her head forward rather stiffly, but there is no real rigidity of the cervical spine. In the region of the sixth and seventh cervical spinous processes is a bony prominence. It is about 1 in. long and $\frac{1}{2}$ in. broad. At the inner end it is attached to the spinous processes, and from these is directed downwards and outwards, in the deeper fibres of the trapezius muscle, towards the upper angle of the scapula. The outer end is unattached, and no band between it and the scapula can be felt. The scapula is not deformed, and is not elevated above its normal position. No other bony swellings can be felt.

Mr. KELLOCK commented on the case.

Multiple Exostoses.—Mr. P. MAYNARD HEATH.—Boy, aged 5 years. There is no history of a similar complaint in any member of the family, but a well-marked history of hereditary syphilis.

Achondroplasia.—Dr. F. LANGMEAD.—Girl, aged 10 months. The patient is a characteristic example of the condition. She was brought to Paddington Green Children's Hospital because she makes no attempt to stand, and cannot sit up without assistance, although she is quite bright and intelligent, beginning to use a few simple words. The head shows the usual globular shape, is flattened behind, and somewhat projecting in front. Its greatest circumference measures $18\frac{1}{2}$ in., and its vertical measurement from one external auditory meatus to the other is $12\frac{3}{4}$ in. The fontanelle is about $1\frac{1}{2}$ in. wide. The root of the nose appears somewhat depressed. The face is proportionately small. The total length of the baby from crown to sole is $21\frac{1}{2}$ in., the dwarfing being especially due to the shortness of the femora. The greatest breadth—*i. e.* from the tip of the middle finger of one hand to the tip of the corresponding finger of the other—is $18\frac{1}{2}$ in., the upper arms being proportionately shorter than the forearms. The trunk appears unduly long, because of the stunting of the limbs, and measures $10\frac{1}{2}$ in. The proportion between the proximal and distal parts of the limbs is shown by the following figures: Acromion to external condyle of humerus, $3\frac{1}{4}$ in.; external condyle of humerus to styloid process, $3\frac{1}{2}$ in.; anterior superior spine of ilium to external condyle of femur, $4\frac{3}{8}$ in.; external condyle of femur to external malleolus, $3\frac{1}{4}$ in.

The baby is well nourished, and in the upper arms and thighs the stunting of the bones has caused the soft tissues to be disposed in folds, with intervening sulci. Complete extension of the arm is impossible. The hands are short, the fingers radiating in the usual trident fashion, so that the third and fourth fingers cannot be approximated along their whole length, but if opposed at their bases diverge at their tips. There is marked hypotonia and looseness of joints, especially of the wrists. No lordosis has developed at present—an indication that it is compensatory—but there is, on the contrary, a definite convex curvature in the dorsi-lumbar region. The little toes are very short, and curved inwards. There are no other abnormalities.

The PRESIDENT commented on the case.

Myopathy (? Affection of the Facial Muscles).—Dr. F. LANGMEAD.—The boy was brought to the Royal Free Hospital for increasing weakness and difficulty in walking. The duration of the condition cannot be determined, since he had always been weakly, but it has been particularly noticeable for the last six months. The difficulty in walking was first detected by the great effort he has to make to go upstairs, and now he is said to take about half an hour to climb a short flight. He soon gets tired if taken for a walk, and has sometimes to be carried home. If he falls down, according to the mother's statement, he "lies like that for a long time, not trying to get up, and if he does get up he never gets up properly." Certain groups of muscles show definite pseudo-hypertrophy. This is clear in the case of the quadriceps and calf muscles on both sides, and of the hamstring muscles and gluteus maximus of the right side. Other muscles are atrophied, this change being apparent in the pectorales, trapezii, and latissimi dorsi. The serratus magnus appears to be functioning on each side, but there is some winging of the scapulae. The humeral and forearm muscles are not definitely altered in size. There is some lordosis and a

slightly rolling gait. He gets up from the floor without assistance and without much difficulty, but in the usual manner in this condition. The general nutrition is good, and otherwise the boy is healthy. A point of special interest is whether the face muscles are affected. He is able to perform the usual facial movements, but his mother volunteered the statement "that he never smiles, and is always pouting." There is certainly a rather fixed expression, the mouth is always open, and the lower lip is a little everted. Apart from this, the case is characteristically one of pseudo-hypertrophic myopathy. Groups of pseudo-hypertrophied muscles are present, however, not uncommonly in the Landouzy-Dejerine variety.

No history has been obtained of any similar condition in other members of the family.

Secondary Optic Atrophy due to a (?) Cerebellar Tumour.—

Dr. O. K. WILLIAMSON.—A boy, aged 7 years, was brought to hospital for loss of sight, headache and giddiness, also wasting. It is stated that the symptoms commenced seven months previously, that the headache, which is frontal, and does not appear to be constant, has been worse since about the beginning of December last, and that the loss of sight was not noticed until about two months later. No history of vomiting or fits can be obtained. It is stated that some years ago the boy had tuberculous glands in his neck.

On examination the pupils were seen to be dilated, and to react well to light. Mr. Juler, who saw the child on February the 24th, reports in regard to the eyes: Vision, right defective; left $\frac{6}{60}$. Discs very pale, and of post-neuritic type of atrophy. Vessels of a fair size. Edges slightly blurred, lamina cribrosa invisible. No paralysis of cranial nerves. No loss of power of upper or lower extremities. Knee-jerks present. Right one perhaps rather brisker than left. Bowels constipated.

On March the 14th it was stated that the boy when walking tends to fall to the right.

The History of Infant Feeding from Elizabethan Times.—

DAVID FORSYTH read a paper on this subject. Tracing the changes in breast-feeding through nearly four hundred years he showed how in each century the period of suckling had steadily declined. Beginning in the fifteenth century at two to three years—a duration which is still customary among the Japanese and the Greenlanders—it had become eighteen months to two years under the Stuarts, one year in Georgian days, and now lasted only about eight months. Step by step the mother had been supplanted, first by the wet-nurse, and later by the sucking-bottle. The rise and fall of the wet-nurse, who reached her palmy days in the eighteenth century, were described together with the social evils that she brought with her. Artificial feeding was quite unknown until the time of the Hanoverian succession, and even then the choice of food was limited to bread-and-water pap. A little later cow's milk came into use, and Dr. Forsyth showed how the profound suspicion of all artificial methods was to be accounted for by the sanitary condition of the people in Tudor and Stuart times. Cow's milk, however, for more than a century after its introduction, was held in general disrepute for the reason, no doubt, that a widespread prejudice against boiled milk existed among all classes. In the nineteenth century three notable developments were witnessed—first the invention of a sucking-bottle, second, the manufacture of proprietary foods, and third, the final acceptance

after long struggles of artificial methods. The original feeding-bottle was a cow-horn, to the tapering end of which were tied a couple of pieces of leather sewn together like the finger of a glove, and the babe sucked its milk between the stitches. The gradual stages by which this "horn" developed into the modern hygienic feeding-bottle were traced. Finally the more recent developments in the methods of feeding during the last fifty years were described. In conclusion, Dr. Forsyth, recalling the striking decline in the duration of breast-feeding and the steady progress of artificial methods, glanced at the future of infant feeding. Did it lie with the method of Nature or with the methods devised by man's ingenuity? His experience had been that medical men, more often than was sometimes thought, supported the bottle against the breast, and he thought that in doing this they were showing no more than a practical appreciation of the modern trend of infant feeding.

The paper was discussed by the PRESIDENT and Dr. BEZLY THORNE.

Dr. W. BEZLY THORNE said it was his conviction, after forty years of observation, that the difficulty in breast-feeding, though it rested to a considerable extent on the mother, rested to a very much larger extent on the monthly nurse. The nurse strongly objected to bringing the child to the mother, and it was his absolute conviction that drugging of infants by monthly nurses was an extremely common practice; that the young mother was persuaded over and over again that the milk was disagreeing with the child, whereas it was really the drugging of the child which was doing the harm. The confiding mother was persuaded to give up the natural mode of feeding.

A Plea for the Home Treatment and Prevention of Measles.—Dr. R. MILNE read a paper in which the use of carbolised oil for the throat andunction of the skin with eucalyptus was advocated.

The PRESIDENT commented on the paper, but discussion was adjourned until May the 28th, after the publication of the paper in the 'Proceedings.'

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

January the 20th, 1911.

Muscular Dystrophy (Pseudo-hypertrophic Paralysis).—Dr. E. F. TREVELYAN showed a case which commenced at the age of eight and had persisted for twelve years. There was pseudo-hypertrophy of the calf muscles, but particularly of the triceps muscles. There was marked atrophy of the glutei and latissimus dorsi, but only slight atrophy of the lower pectorals and spinati. The scapulæ were slightly winged. The gait was waddling and there was lordosis in the lumbar region.

February the 17th, 1911.

Acute Osteomyelitis.—Mr. W. THOMPSON showed a boy, aged 12 years, in whom four years ago the greater part of the right tibia was removed for acute osteomyelitis. The upper epiphysial line of the tibia had been

destroyed and it was three inches shorter than the other tibia. The right fibula was half an inch shorter than the other and had overgrown the tibia both above and below.

Keloids of Neck.—Mr. H. LITTLEWOOD and Mr. S. W. DAW showed a boy, aged 12 years, with keloids of the neck following burns from a celluloid collar two years ago. The tumours began to appear as the scar was healing.

March the 17th, 1911.

Persistent Thyro-glossal Duct.—Mr. ALEXANDER D. SHARP showed a child, aged $2\frac{1}{2}$ years, who presented a tiny opening in the middle line of the neck between the hyoid bone and the thyroid cartilage. It was first noticed by the mother when the child was six months old. The opening admitted a probe of calibre of a Eustachian bougie for about one third of an inch. An almost colourless fluid exuded from time to time in very small quantities.

Vaccine Treatment of Basal Meningitis.—Mr. A. GOUGH showed a child, aged 6 months, recovering from basal meningitis. The cerebro-spinal fluid obtained by lumbar puncture contained large numbers of Gram-negative cocci similar in appearance to those of Weichselbaum. Treatment with autogenous vaccine was followed by rapid improvement. The child was now very well but showed slight hydrocephalus.

Bismuth Poisoning.—Mr. H. COLLINSON showed a child, aged 12 years, upon whom nephrectomy for tuberculous kidney had been performed eight weeks previously. A paste consisting of bismuth subnitrate two parts, iodoform one part, and solution of hydrarg. perchlor. 1:1000 was rubbed into the wound surfaces. For the last six weeks the child had suffered from salivation and black discoloration of the gums, cheeks, and lips. The symptoms were, he thought, to be ascribed to poisoning by bismuth.

Philadelphia Pediatric Society.

MEETING, February the 14th, 1911, J. TORRANCE RUGH, M.D., President.

(Continued from p. 176.)

Infantile Hemiplegia.—Dr. JOHN F. SINCLAIR showed a coloured boy, aged $4\frac{1}{2}$ years, who had been breast fed three years, though condensed milk had also been given after the third month, and table food after the second year. The history was vague as the mother could not be reached; there was no reason to suspect syphilis. The child had never been sick, though he had had some attacks of diarrhoea whenever he got a tooth. He talked and walked at the same age as other children. He had not had any convulsions. At three years trembling of the right side was first noted, with loss of power in the right arm and leg, and gradually he lost the power of speech. This condition had gradually grown worse; now he had difficulty in walking, standing, talking, and could not hold things in his right hand. There was never any pain. Dr. Langdon reported no abnormal condition of the eyes.

The right upper extremity showed constant athetoid movements; inco-ordination prevented all useful movements. Wrist and forearm were flexed, though not rigidly; power was much reduced. There was no deformity and no atrophy: knee-jerks and Achilles jerks were exaggerated. He probably presented a post-natal cerebral lesion, involving the left internal capsule, including the speech-fibres from Broca's area. From its insidious onset without convulsions the lesion was probably a thrombus. While his speech might improve with training, the athetosis, spasticity and motor weakness were unlikely to improve much. The absence of convulsions and the persistence of some speech were favourable indications for the mental outlook.

Dr. H. M. LANGDON said that examination of the eyes showed nothing that could help in diagnosis. The absence of changes in the ocular structures was decidedly against the presence of any cerebral neoplasm. Vision was normal and the pupils reacted well; no fundus changes were visible. Yet Dr. Spiller has reported two cases of slowly occurring hemiplegia as a sign of brain tumour, without any fundus changes at all. Dr. C. S. Potts had also reported such a case, Dr. Langdon having made the ocular examination two weeks before the patient's death.

Dr. A. H. WOODS said these cases presented great interest, especially in prognosis. There could be no question as to the cerebral hemiplegia, since tremor, weakness, and athetosis were marked and aphasia had developed after speech was established. There was some rigidity and spasticity, with distinctly increased knee-jerk on the affected side. It was, therefore, a post-natal hemiplegia. But the cause was not easy to assign. Arterial disease ante-dating birth might be the determining factor in a natal or post-natal lesion. It was conceivable that a very slow-growing tumour might be present, but this need hardly be considered. Dr. Woods believed that there was a vascular lesion, probably hæmorrhage, embolism or thrombus, with softening following. The gradual spread of this area would account for the slight increase in symptoms. Autopsy would show a cyst or scar with surrounding sclerosis. The boy, with proper teaching, should again learn to talk.

Dr. J. T. RUGH added that an elder brother of his was suddenly attacked by hemiplegia at the age of three years. For six years he had absolute aphasia; at the age of nine he spoke, and at eleven he began to walk. He had been a practising physician for twenty-six years, was quite well, and was now fifty years old. His complete recovery had been remarkable. Thus the prognosis of infantile hemiplegia was not always grave.

In answer to Dr. Hammond's question whether decompression ought not to be attempted in this case, Dr. SINCLAIR said that symptoms had not progressed so decidedly that operation seemed indicated. He believed the condition to be the result of an old lesion. Proper individual attention should now bring about great improvement.

Congenital Pyloric Stenosis.—Dr. H. A. SUTTON, by invitation, reported the case of an infant aged 6 weeks, in whom symptoms of pyloric stenosis existed two weeks, when operation was successfully performed.

Dr. L. J. HAMMOND said the ætiology, which at present was largely confined to a theoretic discussion, was most interesting. The most logical theory would seem to be that which involves a consideration of those factors entering into faulty embryologic development. The pylorus varied widely both in shape and structure, from the usual ring-shaped constricting band

formed by a reduplication of the gastric mucosa through which circular muscular fibres were found in varying amounts and development; it might be oval or formed by two crescentic bands one above the other below the orifice, or it might consist of but a single crescentic fold. This inconstancy of formation would suggest the possibility of a vice in its development when there was added such an error in development as an unusually high position of the pyloric end of the stomach, producing angulation, and thus excessive connective tissue; hyperplasia in those cases where the pylorus consisted of a single fold, or twisting of the longitudinal fibres, might be responsible for reversion in their growth and development. Whatever the determining factor faulty embryologic development seemed the most ready explanation. The condition was often associated with other developmental defects.

Dr. C. H. WEBER said that he had seen the patient several times before operation. The presence of the loud systolic murmur and an enlarged liver, associated with vomiting, made the diagnosis uncertain; but later, visible peristalsis was elicited, the vomiting became projectile and the diagnosis was readily made. The presence of the congenital heart lesion could possibly be considered a point in favour of the theory of congenital origin of the hypertrophy. Dr. Weber thought that in spite of the good results obtained by medical treatment, especially as reported in the English statistics, the tendency would be toward surgical intervention. Many cases of recovery after operation were being reported, and no doubt results would continue favourable in early cases. Medical treatment required very careful dietetic care and was a long, tedious process, possibly lasting for months. Dr. Weber said that he referred only to the type of cases having the anatomical conditions which were found in the patient under discussion.

Dr. J. F. CROZER GRIFFITH urged the importance of giving medical treatment a fair trial. There were cases such as the one reported that evening and another recently shown at the society by Dr. Lowenburg, which Dr. Griffith had also had the opportunity of seeing in consultation, where there was no doubt about the advisability of operating. There were many other cases, however, where the question of operating was a most difficult one to decide. Within a few months he had been called to see a child in whom symptoms were typical; a few days later he was asked to come hurriedly, with a surgeon, for operation. It was found that a very small amount of faecal matter had appeared in the stools and it was decided to wait twenty-four hours. The child was now entirely well without operation. Admitting that hypertrophic stenosis was congenital and the infant remained perfectly healthy for several weeks, suddenly showing symptoms of stenosis, it was evident that something more than the hypertrophy must be present to account for the condition. It was clear that there existed in addition to the hypertrophic stenosis, or perhaps existing entirely without it, a condition of pyloric spasm, and in some cases also of swelling of the mucous membrane. It was probable that in nearly every case of hypertrophic stenosis a certain element of spasm was present, and it must be true, from the large number of cases which had recovered without operation, that in a great many spasm existed alone, or if there was any hypertrophy it was of a degree which by itself did not produce symptoms. Dr. Griffith believed that symptoms supposed to describe each variety of case could not be depended upon and the question of operation often became puzzling. In view of the high mortality which had attended the operations recommended for the disease, one must hesitate before advising any one of them, while it was equally serious to delay operating so long that the strength of the infant was

weakened to an extent which removed most chance for recovery after operation.

Dr. HARRY LOWENBURG said that the whole question was one of diagnosis, the treatment being almost invariably surgical once the diagnosis was made. Most cases died because they were treated as marasmus, the profession being insufficiently informed as to the frequency and symptomatology of the condition. All cases of persistent vomiting associated with wasting should be regarded as pyloric stenosis until it could be proved that they were not. It was not safe to temporise long. Dr. Lowenburg believed that no case of true hypertrophic pyloric stenosis ever recovered without operation. The infant should be placed in the best possible surroundings and great care exercised in preparing its food; if, in spite of this, it lost weight daily, operation should not be delayed. If weight and strength remained stationary or it gained ever so little, they could afford to wait. When a pyloric tumour could be palpated operation was indicated at once. The inability to palpate a tumour was often due to rigidity of the abdominal muscles from crying or straining. Dr. Lowenburg could overcome this by a few whiffs of chloroform, just enough to still the infant; he recommended this as a routine procedure in these cases.

Dr. MILLER said that he had seen five or six cases of so-called hypertrophic pyloric stenosis treated by careful dietetics and lavage with recovery. In every case the principal cause of the symptoms was spasm; in some it was pure spasm; in others, spasm plus some hypertrophy of the muscular fibres of the pylorus; and in others absolute occlusion of the pylorus due to true hypertrophy. To decide when to operate was the great difficulty. Dr. Miller advised postponing the operation so long as the baby did not lose in weight and continued to pass fecal matter by the bowel. Patient persistent dietetic experimenting would do much. In the treatment he advised feeding only when the stomach was empty, to be determined by the passage of the tube, a quantity that could be retained without vomiting—not too much. The presence of reversed peristalsis was not a sign of pyloric stenosis alone; it might be present when no true stenosis existed, and the same might be said of projectile vomiting and other classic symptoms of the affection.

Hæmorrhagic and Gangrenous Varicella.—Dr. FRANK CROZER KNOWLES read a paper reporting a fatal case of hæmorrhagic varicella in a boy, aged $2\frac{1}{2}$ years. Only six somewhat analogous cases were found in the literature. He divided these cases into varicella with hæmorrhagic lesions; varicella with a hæmorrhagic and gangrenous exanthem; varicella associated with petechial eruption; varicella with hæmorrhages from the kidneys, stomach, intestine; and gangrenous, non-hæmorrhagic varicella. Under the latter heading were included cases of varicella gangrænosa. Dr. Knowles concluded that there was a true form of hæmorrhagic varicella, starting with ordinary vesicles with clear contents which some hours later became filled with blood. It was a rare complication of varicella. The hæmorrhagic vesicles might lead to the formation of gangrenous areas. The virulence of the infection and the resistance of the individual governed the hæmorrhagic and gangrenous tendency. There was also a true form of varicella in which the contents of the vesicles became purulent and might lead to gangrenous areas, but usually to ecchyma or impetigo. The term varicella gangrænosa should be applied only to cases of gangrene directly caused by varicella. Dermatitis gangrænosa infantum should be applied to cases of gangrene in children whether associated with varicella or not, if not

directly dependent upon that condition. Twenty-eight references were given in the paper.

Dr. MAURICE OSTHEIMER, who had also seen the case, spoke of the question of diagnosis. The history of recent chickenpox in the family and the presence of typical vesicles together with lesions in all stages of development excluded smallpox. Dr. Ostheimer believed that the hæmorrhagic variety of chickenpox was rare because the individuals who showed a hæmorrhagic tendency were rare; that this idiosyncrasy explained the occurrence of hæmorrhagic varicella better than a very virulent infection or a poor general condition of health. This child was one of a family, all brought up under the same conditions, and apparently as strong as the others. Yet he had hæmorrhagic varicella and died, while the rest only had simple chickenpox. He agreed with Dr. Knowles that the gangrenous variety, whether it occurred with true varicella or not, should be separated from the hæmorrhagic variety of varicella, a rare form of true varicella, and should be considered as a skin disease, while hæmorrhagic chickenpox remained an infectious disease. It should not be forgotten, either, that traumatism during an attack of chickenpox might result in the occurrence of some hæmorrhagic lesions.

Dr. GRIFFITH said that he had the records of two cases of hæmorrhagic varicella which must have been very similar to the case described by Dr. Knowles. In one the course was extremely rapid, with widespread purpura, death occurring before gangrenous changes could take place. He had also seen two cases of varicella gangrænosa, one previously reported; in the other the germ present was found to be the *Bacillus pyocyaneus*.

Dr. A. E. ROUSSEL spoke of the similarity between hæmorrhagic varicella and hæmorrhagic variola. He had seen some lesions of varicella that became hæmorrhagic from local traumatism and similar instances in smallpox also. He regretted that Dr. Knowles had not given a percentage of deaths in his cases. In smallpox, when hæmorrhage occurred in individual pustules, recovery followed in only 10 per cent.; when petechiæ occurred death was almost sure to follow. Leucocytosis, generally present in smallpox, was most marked in the hæmorrhagic cases, especially the purpuric type, showing an increase in the mononuclear cells with the occasional appearance of normoblasts.

Dr. KNOWLES added that one of the four petechial cases died and two of the other six cases died. No leucocyte count or differential counts were made because the case died three days after it was first seen. No family history of bleeding could be obtained. Therefore Dr. Knowles considered the virulency of the infection and the lack of resistance of the individual the causes of the varicella becoming hæmorrhagic.

Société de Pédiatrie, Paris.

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Discussion on Hypo-alimentation.—M. COMBY was of opinion that in natural feeding with a good nurse matters righted themselves whether the infant took the breast at long or short, regular or irregular, intervals. It was when the nurse had not sufficient milk that the phenomena of hypo-

alimentation made their appearance. The alimentation was purely an individual matter, and it was impossible to fix theoretically the quantity of milk that ought to be taken. Among infants on the bottle over-feeding was much more frequently met with. Weaklings required a higher ration than normal infants, and in certain cases, in order to grow, could absorb amounts of milk corresponding to one fifth or even one fourth of their weight.

M. E. GAUJOUX, of Montpellier, reported twelve cases in which he had found the mother's milk deficient in quality. By drinking a quantity of fluid a woman could generally vary the output of her mammary secretion from one sixteenth to one third, but the non-aqueous principles of the milk suffered a proportional diminution. He urged the importance of analysing the mother's milk.

M. LEMAIRE had had the opportunity of observing three children in which change of milk and variations in the quantity taken at each feed had brought about no amelioration of the vomiting and digestive disorder. In these three cases, after a water diet of some hours, the speaker gave a *purée* of potato with a small quantity of amylodiastase. In all cases the digestive troubles disappeared and the body-weight, which had been either stationary or lowered, began to ascend regularly. He thought the digestive troubles were caused by a kind of anaphylaxis or intolerance of milk in any form.

Cleft Palate and the Uvula.—M. VEAU showed a child, aged 8 months, on which he had performed staphylorrhaphy, and insisted on the necessity of making a long uvula.

Hypertrophy of Thymus and Mediastinal Adenitis.—M. VEAU also showed a child, aged 5 months, who had had all the signs of thymic enlargement, viz. dyspnoea, attacks of suffocation, difficulty in swallowing, recession, and marked manubrial dulness. During the operation, contrary to expectation, there was found a small thymus, and behind the brachio-cephalic trunk a greyish mass, the size of a hazelnut, consisting of a gland infiltrated with pus, and another gland distinctly suppurating. The symptoms did not subside until three days after the operation. The author remarked that such symptoms supervening on an infectious disorder, such as broncho-pneumonia, and gradually becoming more severe, should eliminate the diagnosis of hypertrophy of the thymus and point rather to a tracheo-bronchial and mediastinal adenopathy.

Lymphangioma of the Foot.—MM. MAUCLAIRE and SEJOURNÉ showed a boy, aged 7 years, who had a tumour removed from the sole and outside of the foot adherent to the skin and plantar fascia. Microscopically it was a lymphangioma.

Apparatus for flushing Abscesses.—M. OMBRÉDANNE showed this instrument (which is figured in the 'Bulletin'). It allowed the abscess cavity to be well emptied and flushed with an antiseptic solution without changing the position of the trocar. The cicatrix was by this means reduced to two or three almost imperceptible white dots made by the trocar and two horse-hair setons.

Congenital Syphilis and "606."—M. SAVARIAUD related the case of a girl who had various osteo-articular changes treated partly by operation and partly by mercury, with slight benefit, from the age of three months to four years. A marked cure resulted in eight days after a single injection of "606."

Emotional Jaundice in Childhood.—M. MERKLEN related the case of a girl, aged 11 years, who on the day after a fright occasioned by her having been caught between two vehicles while crossing the road, was seized with gastric symptoms, and the day after with jaundice and white stools, lasting eight days. When convalescent she was sent to the country, where, fifteen days later, a cousin, a girl, aged 9 years, contracted jaundice. Several days later the brother of this last, aged 7 years, had a similar attack, but of greater severity.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Do medical schools adequately train students for the prevention of infant mortality? (*New York Med. Journ.*, 1911, I, p. 112).—Under this title **Ira S. Wile** severely criticises the training of students in all that concerns early infant life. He points out that in the United States one fourth of all born die at or under the age of 1·8 years, and quotes Westergard, who has shown that 25 per cent. of the mortality of Berlin during the first year occurs during the first month and 47 per cent. during the first three months. In London 11·09 per cent. of the first year's deaths happen within the first month, and 34·6 per cent. is confined to the first three months. "Should," he asks, "the problems of infancy be placed in a subordinate position in medical curricula when they occupy the most prominent place in the category of destructive conditions?" There are no medical schools which give adequate instruction in the prevention of infant mortality, whilst the possibility of reducing the infant death-rate is retarded until such is forthcoming. One half of the infantile death-rate is from preventable causes. Holt, in his investigation of 44,226 deaths under one year of age, found 28 per cent. to be due to gastro-intestinal diseases, and in New York City 85 per cent. of the infantile deaths occurred among artificially fed children. In Great Britain 75 per cent. of the infant mortality is among bottle-fed children. Yet the medical schools do not lay stress upon infant feeding, in fact, probably 90 per cent. of the graduates receive "too little" instruction on the subject to allow them to take up the work of feeding infants without recourse to the widely advertised prepared infant foods. The teaching of pædiatrics must be strengthened. As every physician is called upon to care for infants, he should at least be taught as much about them as about numerous operations which he may never have a chance to perform or even see. General hospitals fail, for the most part, to have special wards for children. The principles and practice of infant feeding especially should be taught, and the evidences of incorrect feeding learnt from a study of the vomitus and the stools, not merely theoretically in a lecture room. Sufficient evidence is not laid on the dangers of artificial feeding, and students are seldom told how to improve the milk supply of the mother. Over 40 per cent. of the present infant mortality has been adjudged to be preventable, and 52·5 per cent. of infantile deaths is due to acute gastro-intestinal diseases, marasmus and inanition, and prematurity after the seventh month—conditions which are capable of considerable modification and improvement, chiefly through proper care and

feeding, yet the subject of infant hygiene is neglected. The fundamental causes of infantile mortality may be summed up as poverty and ignorance. The physician may not be able to cure poverty, but he can correct the ignorance and its stepchild, neglect. Students should have lectures upon social questions as related to the cause of infantile morbidity, and also training in the value of various types of institutions for the cure of the diseases of child life. To be successful the preventive work in pædiatrics must have a foundation in the knowledge that the faulty social structure is at the basis of many of the ills that infant flesh has thrust upon it.

FREDERICK LANGMEAD.

Infant mortality in New York City (*'Med. Record,'* 1911, I, p. 146). —**Wilbur C. Phillips** states that in the summer of 1910 the infant mortality in the Borough of Manhattan, New York City, increased from 168 deaths per 1000 births in 1909 to 178 deaths per 1000 births. While the cause for this was being argued, the absence of any need whatever, not only for an *increased* infant mortality rate, but for probably more than half of the present infant mortality, had been conclusively demonstrated. In New York City, as in Europe, it had been shown that infants need not die if pure milk can be distributed, and if their mothers can be made to feed and care for them properly. In four infants' milk dépôts maintained in congested quarters by the New York Milk Committee an average of 350 babies were cared for throughout the summer, of whom only one died of diarrhoea, and that because of the obstinacy of the mother. In another dépôt, where 125 babies were cared for, there were no deaths, and in three others only five succumbed during the summer from diarrhoea. These results, obtained in districts where poverty was intense, where living conditions were intolerable, where congestion was rank, where great ignorance prevailed, and where the heat was as keenly felt as anywhere else in New York City, indicate that infant mortality is not inherently due to any of these causes. No specially modified milk was distributed in individual feeding-bottles, but the mothers had prepared home modifications from whole milk throughout the entire summer. The purity of the milk was undoubtedly a great factor in the saving of infant life, but the main reason why these babies lived was the superior care and oversight which they received from their mothers, as the result of the sustained efforts of the doctors and nurses in the Committee's dépôts. Institutional care of babies is a failure. Breast-feeding has been discouraged by the lavish distribution of commercially modified milk. Emphasis has been placed upon percentage formulæ and pasteurisation, but we have forgotten that the preparation of the food and the meeting of emergencies which are frequently arising can be most sympathetically taken care of by the mother herself. That even under the poorest circumstances she is able to care for her baby if she be given the necessary instructions has been conclusively demonstrated. The milk dépôt was an indispensable factor in the campaign. Here the nurse had her headquarters; here the mothers came to seek advice once a week, bring their babies to be stripped, weighed, examined, and prescribed for by the physician. The plan of working from the milk dépôt centres, thus combining home visitations with class work and central supervision, is by far the most effective scheme yet employed. With regard to expense, the cost of saving the 8000 babies who at present die needlessly in New York City would not be greater than the cost of burying the same number.

FREDERICK LANGMEAD.

The physician's responsibility in preventing infant mortality (*The Dietetic and Hygienic Gazette*, 1910, p. 589).—**H. Lowenburg**, in discussing this question, makes several very pointed suggestions, some of which are of a rather startling nature. The physician's responsibility antedates the birth of a child, and he should endeavour to aid the infant, yet unborn, in choosing its future parents. The State should control marriages, and should withhold its licence until both parties present a clean bill of health as certified to by a competent medical attendant, who should not hesitate to give advice, when asked, that will prevent the marriage of those who are constitutionally ill of diseases that are well recognised as transmissible, or, if not directly so, produce in the offspring a predisposition that is equally dangerous and will unfit it for the struggle for existence. When diseases such as tuberculosis, syphilis, etc., are known to exist in those already married, the author believes that prevention of conception is an important and justifiable prophylactic measure. Syphilis, etc., in the pregnant woman ought to be vigorously treated. Accidents during parturition should be prevented by the obstetrician being prepared not only to meet emergencies that threaten the infant's life, but also to avert dangers by anticipating them. It is pointed out that during the first few years of life proper nutriment and the prevention of infection are the two chief prophylactic measures. Breast-feeding should be advised wherever possible, but if for any good reason it is contra-indicated, an endeavour should be made to command a pure milk supply. With regard to the prevention of infection, the author remarks that our greatest means against infection is to make the surroundings of the poor livable. He advocates a strenuous educative campaign against ignorance, superstition, and filth.

J. ALLAN.

Reduction of infantile mortality from the diarrhœal group of diseases; administrative measures (*Journ. Roy. Inst. Public Health*, 1910, p. 72).—**John J. Buchan** lays great stress on educational measures, which should aim at spreading knowledge regarding infant feeding and hygiene. Breast-feeding should always be encouraged. The work is best carried out by specially trained lady health visitors. The assistance of voluntary workers is invaluable, and medical men and midwives can do much to help in the home instruction of mothers. The author thinks that far too little importance is given to the subject of infant rearing in the medical curriculum. Older girls and young women in elementary schools and in continuation classes ought to receive instruction regarding infant feeding. A suitable food should be provided for hand-fed infants, and in St. Helens an infant milk dépôt has been established for over ten years. The use of patent foods and condensed milk is condemned. Good dried milks afford a safe and excellent way of feeding infants who cannot have breast milk. Among general sanitary measures are mentioned the prohibition of dummy teats and long tube bottles, warfare against flies, better cleanliness in and around the home, etc. Of special measures the author thinks that there are many difficulties to be overcome before notification could be adopted as a practical administrative measure. In July, 1905, the local authority in St. Helens determined to receive into their isolation hospital "when and so far as accommodation permits, cases of diarrhœa in infants housed under such conditions that they cannot be properly treated or nursed."

J. ALLAN.

Milk supplies for large towns (*Edinburgh Med. Journ.*, 1910, p. 197).—**John Robertson**, Medical Officer of Health for Birmingham, affirms that

much of the milk supplied to large towns passes through the hands of dealers and is brought from a distance, so that the interval between the milking of the cow and the consumption of the milk is considerable. The risk of contamination is consequently great, and, in fact, 7 to 14 per cent. of all milk sent into large cities contains the living germs of tuberculosis, much contains dirt of an objectionable sort, and occasionally it is infected with other pathogenic organisms. Reform is urgently needed, especially at the milk producers' premises, where often considerable expenditure is required to bring the byres up to sanitary efficiency. To enable the dairy farmer to do this provision should be made by the Government in the direction of loans for short periods. The byre should be bright, airy, and an adequate supply of water for cleansing purposes should be available. Also the herd should be kept free from disease and be fed properly and the milk should be handled carefully. Especially important is tuberculosis, from which, as judged by tuberculin tests, about 30 per cent. of dairy cows are suffering. This should be eradicated by the help of an efficient staff of veterinary service men, and the farmer should be compensated for slaughtered cows. Milk receives serious damage in the smallest class of dwelling house occupied by the poorest of the people, to whose infants fatal summer diarrhoea is almost confined.

FREDERICK LANGMEAD.

Some problems in infant feeding (*Glasgow Med. Journ.*, 1910, II, p. 246).—**Leonard Findlay** emphasises the importance of breast feeding for infants. Attention is drawn to Meyer's investigations regarding the influence of various salts on the young infant. It would appear that the great difference between cow's milk and human milk lies, not in the difference between the curds, but in the variation in the composition of their wheys. Infants fed on a mixture of human curd and cow whey developed all sorts of gastro-intestinal disturbances, as if they had been receiving undiluted cow's milk. Gastro-intestinal disorders can be cured by giving a mixture of cow curd and human whey. Faulty administration is responsible for much gastro-intestinal trouble. Regularity of feeding and the frequency of the feeds are most important points in this connection. Failure of a child to thrive at the breast is not an indication for immediate weaning. This may be simply due to deficient quantity of milk, the child suffering from inanition. In such cases one should prescribe "*allaitement mixte*," although too often the mother decides at once to wean the child, a practice which cannot be too strongly deprecated. Statistics relating to 200 cases are submitted to a critical analysis.

J. ALLAN.

Should eclamptic mothers nurse their newborn? (*Mont. Med. Journ.*, 1910, xxxix, p. 737).—**J. R. Goodall** answers this question in the negative. He relates three cases of infants nursed by eclamptic mothers which died suddenly with extreme cyanosis and respiratory failure. Autopsies on such children have generally shown advanced degeneration of the kidneys and hæmorrhages in the liver, in fact lesions like those seen in eclamptic women. The writer considers that the milk of eclamptic women is toxic; it would be, he says, a very singular lack of coincidence if a mother's milk could be saturated with toxins without the milk being tainted with the same metabolic products. It has been shown by Massen that the urine of eclamptic mothers is less toxic than their blood. Goodall considers that with the milk is secreted a toxin more virulent than that which circulates in her own system. He shows that morphia causes the most alarming symptoms in the nursing

infant, but does not seem to affect the foetus *in utero* even in larger doses. He also shows that in a mother taking arsenic ten times as much can be obtained from the milk as from a similar quantity of urine. The same argument holds good for the poison of eclampsia. Goodall in such cases feeds artificially for a few days, and has the breasts emptied once or twice before the child is allowed to nurse. If there are post-partum convulsions the maternal elimination should be allowed to go on till she is freed from the greater part of the poison and then the breasts emptied before the infant is nursed. If albuminuria persists after gestation, it will be well to feed artificially throughout.

J. PORTER PARKINSON.

The influence of colloidal protection on milk (*Journ. Amer. Med. Assoc.*, 1910, II, p. 1196).—**Alexander and Bullova** state that the addition of protective colloids to cow's milk sterilises it and makes it more like human milk when treated with acid and rennin. If sufficient colloid be added coagulation of the casein in the stomach may be entirely prevented, or at least the coagula kept in a fine state of subdivision. Colloidal protection may be brought about by the use of animal proteins (gelatin, albumin), vegetable proteins (gluten), or carbohydrates (gum-arabic, tragacanth, Irish moss). The dextrinised gruels now used combine the protective colloids gluten and dextrin. Under the ordinary conditions of digestion casein is coagulated only in neutral or acid solution. It is evident, therefore, that alkalies such as lime-water and bicarbonate of soda may by their antacid action partially or entirely inhibit the coagulation of casein. Sodium citrate, however, is different, and acts as a protective colloid. Increasing the colloidal protection tends to improve the digestibility of cow's milk and absorption of both casein and fat, and to prevent the formation of indigestible curds.

T. R. WHIPHAM.

Indications and directions for the use of albumin-milk (*New York Med. Journ.*, 1911, I, p. 121).—**Isaac A. Abt** writes on this method of feeding, introduced by Finkelstein in Berlin. Albumin-milk is prepared, he says, in the following manner: One tablespoonful of essence of pepsin is added to a quart of milk, and the dish containing it is placed in a water bath until the milk is heated to about 100° F. After the milk has curdled it is stood aside for fifteen minutes, when the whey is poured off. The curd is put into a clean muslin or cheese-cloth bag, tied at the top, and hung up to drip for two hours. By this time the curd is free from whey. It is now put into a hair-sieve and broken up by a small potato masher, adding boiled water little by little until enough has been added to make a pint. The curd with added water should now be strained. This process is repeated, passing it through the sieve six or seven times until the mixture is perfectly smooth and free from lumps. A pint of previously boiled butter-milk is now added, and also 1 per cent. of malt sugar in some form. The preparation is then ready to be bottled. It prevents abnormal intestinal fermentation on account (1) of the low content of easily fermentable milk sugar; (2) of the low content of whey salts; (3) of the comparatively high proteid content. The bottle should be well shaken before feeding and kept in a cool place. Albumin-milk contains 3 per cent. of proteid, 2·5 per cent. of fat, from 1 to 1·5 per cent. of milk sugar, and from 0·4 to 0·5 per cent. of mineral salts. The mixture contains the equivalent of 450 calories to each litre. In addition, 1 per cent. of malt sugar is added. It is indicated, he says, in all infantile disorders which are associated with

diarrhœa, especially in those where the breast-milk is not obtainable. It is valuable in cases of dyspepsia, entero-catarrh, cholera infantum, and atrophy. In cases of dyspepsia the baby is fed on tea sweetened by saccharin for six hours; then 10 oz. of albumin-milk daily, divided into five or six feedings to begin with. In cholera infantum and entero-catarrh he recommends a tea diet for twelve to twenty-four hours; then for one day albumin-milk, one teaspoonful ten times daily, with tea and saccharin in the intervals. In a day or two the albumin-milk may be increased from $1\frac{1}{2}$ to 2 oz. daily, when the stools become less frequent. Then increase the albumin-milk 3 oz. each day, until eventually the baby receives from 6 to 7 oz. to each kilogramme of body-weight in the twenty-four hours. In cases of atrophy the food should be increased as quickly as possible, even if the motions are not quite satisfactory. Sugar should be added soon in these cases, as the danger of under-feeding is paramount. For the first few days of treatment with albumin-milk the loss of weight may continue, and the general appearance does not improve. The entire quantity given should never exceed a litre a day. Children over three months old usually require from six to eight weeks' treatment in this way, those under three months about ten weeks'. As soon as the evacuations have improved or become less frequent sugar should be added, and this should be done after eight days at the most, even if the motions are still abnormal. The use of milk sugar or cane sugar is not advisable, since they may cause a relapse. Much more certain in their action are preparations of maltose or dry malt.

FREDERICK LANGMEAD.

Surgery.

Strangulated hernia in children (*Gaz. Hebd. des Sci. Méd. de Bordeaux*, October 9, 1910, p. 484).—**Verdelet**, after describing three cases, mentions the various views on the frequency of strangulated hernia in children. He shows that it is especially common during the first two years of life, in many cases during the first two months, and then lessens, to increase again about the period of puberty. The symptoms are the same as in the adult. The herniæ are often reduced easily with gentle pressure if seen early. When the appendix is in the sac it should not be removed but replaced except it be seriously affected, as appendectomy in young children is a serious operation. The radical cure should follow the reduction, but it is not necessary to close the inguinal canal as carefully as in the adult, two catgut stitches being, as a rule, all that is necessary to obtain a good result.

J. PORTER PARKINSON.

Strangulated hernia in a baby (*Med. Press.*, 1910, II, p. 411).—**A. Edmunds** operated on a male infant, aged 5 weeks, in whom a hernia suddenly made its appearance and was found to be strangulated. A radical cure was performed and the child did well.

T. R. WHIPHAM.

Strangulated congenital umbilical hernia (*Journ. Amer. Med. Assoc.*, 1910, II, p. 1550).—**Maercklein** reports the case of an infant who was found to have a strangulated umbilical hernia at the time of birth. Operation was performed on the following day, when the gut was found to be considerably inflamed. Five days later a hydrocele of the cord developed. This burst spontaneously, discharging about two ounces of pus. The

opening in the scrotum was enlarged and dressed antiseptically, after which the child made an uneventful recovery. T. R. WHIPHAM.

Intestinal obstruction due to *Ascaris lumbricoides* ('*Journ. of Amer. Med. Assoc.*,' 1910, II, p. 1442).—**Whelan** saw a male child, aged $5\frac{1}{2}$ years, who presented all the signs of intestinal obstruction. Twenty minutes later the boy had a convulsive seizure and died. At the necropsy two large masses of round-worms were found in the jejunum.

T. R. WHIPHAM.

Fæcal fistula caused by round-worms ('*China Med. Journ.*,' 1910, p. 351).—**J. H. McCartney**.—A boy, aged 5 years, who had a distended abdomen and all the symptoms of peritonitis for the past three weeks, was brought to hospital with a protruding umbilicus, puncture of which gave issue to muco-purulent matter with a markedly faecal odour. The opening was enlarged and much faecal matter expelled. The same night five round-worms escaped through the opening, and another on the following day. Death took place a week later. No necropsy.

J. D. ROLLESTON.

A unique case of laceration of the sphincter ani ('*Glasg. Med. Journ.*,' 1910, II, p. 231).—**A. B. Cooke**, at the annual meeting of the American Proctologic Society at St. Louis in June, 1910, placed on record this remarkable case. The patient, a little boy, aged 7 years, lived on a farm, and one day went out to his favourite place behind the corn-crib to attend to a call of nature. While he was thus engaged, a pet dog, a hound of medium size, came up from the rear, and, mounting him, effected entrance into the anus and became accoupled. The boy's cries quickly brought his mother to the scene, and in her excitement in separating the two she used considerable violence. The author on examination found little evidence of external injury. Traction upon the anus, however, showed that several internal lacerations of considerable extent were present. Under general anæsthesia the deepest of these was found to be in the middle line posteriorly, extending from a point two inches up the rectum through the sphincter muscles, and out upon the skin surface for a distance of approximately one inch. The external sphincter was torn in two places at this site, one tear being complete and the other partial. Anteriorly there was a second laceration into, but not through the fibres of the sphincter. In addition, there was a number of minor tears in the anal margin, involving the superficial tissue only. The two deep tears were sutured with catgut. Recovery was uneventful and there is complete sphincter control.

J. ALLAN.

Pathology.

Experimental scarlatina in monkeys ('*C. R. de la Soc. de Biol.*,' 1911, LXX, p. 403; *Réunion biol. de Bucarest*).—**J. Cantacuzène** inoculated nine lower apes with scarlatinal products and in four reproduced the disease. The animals chosen were *Macacus rhesus*, *M. sinensis*, *Cercopithecus cephus*, and *C. griseo-viridis*. The virulent matter inoculated was blood taken from a patient during the first few hours after the appearance of the eruption, pericardial fluid, or an emulsion of the tracheo-bronchial glands removed three to four hours after death. Neither the blood nor the

pericardial fluid yielded streptococci in cultures. The subcutaneous method was found better than the intra-venous for the transmission of the disease. After an incubation period ranging from five to thirty-seven days the monkey's temperature rose to 104° F., at which it remained for some days, and a purple eruption appeared on the face, extending sometimes to the fore-legs, faded in thirty-six hours, and was followed by desquamation, which was well marked on the face, and less on the trunk and limbs. Generalised adenitis always occurred. At the onset of the disease there was a marked increase of polymorphs (87 to 89 per cent.). Eosinophilia of 4 to 5 per cent. marked the onset of the symptoms. All the animals recovered.

J. D. ROLLESTON.

Normal percentages of leucocytes in children (*'Archiv. of Int. Med.,'* December, 1910; *Abst. 'Journ. A.M.A.'*).—**Schloss** undertook the investigation primarily to determine the percentages of eosinophiles in children. Cases of manifest illness and those giving a history of any disease recognised as causing eosinophilia were rejected. The eosinophiles were over 6 per cent. in seven out of fifteen infants under two months of age, the highest percentage being 9·7. The highest percentages were found in infants between two days and two weeks of age. In none of the fifty-five children between two months and twelve years of age were the eosinophiles above 6 per cent., and in all the cases but two the percentage was less than 5. It seems, therefore, that there is no physiological eosinophilia in childhood, and that 5 per cent. may be considered as the upper limit of normal. More than 6 per cent. is pathological.

T. R. WHIPHAM.

Eosinophilia in children (*'Sem. Méd.,'* 1911, p. 17).—**J. A. Bauzá.**—The average eosinophile count in children does not differ from that met with in the adult. It is almost always lower than 4 per cent.; the average figure found by Bauzá was 3·2 per cent. In twenty-nine out of forty-three cases of hydatid cysts in children he found the eosinophile percentage higher than 4; of the remaining fourteen suppuration had occurred in seven, a condition in which eosinophilia is usually absent. Eosinophilia was most frequent in hepatic cysts (80 per cent.). After operation it disappears or diminishes. Its absence in abdominal sarcoma and tuberculous peritonitis accords the sign a certain diagnostic value. In helminthiasis it is inconstant. On the other hand, it is almost always present in syphilis, congenital or acquired, and in skin diseases, especially eczema, in which it was found in 80 per cent. In six out of eleven cases of exfoliating glossitis, unaccompanied by cutaneous lesions, the percentage ranged from 5·5 to 22.

J. D. ROLLESTON.

School Hygiene.

Some points of interest revealed by the medical inspection of 2000 school-children (*'School Hygiene,'* 1910, p. 335).—**L. A. Parry** gives his experiences in connection with the medical inspection of school-children in Hove. Malnutrition is very common, and the author thinks most of these badly nourished children would benefit greatly by open-air schools. Ring-worm is fairly prevalent, about 3 per cent. of the children in the schools being affected by it. Treatment by X rays is the most satisfactory method,

and is, in the author's opinion, without danger. The following practice is adopted to determine what constitutes a cure. When it is supposed to be affected, a careful search is made of the scalp. If no short diseased hairs can be detected, the case is kept waiting about a month, during which little if any treatment is adopted. Then, if no signs are present, the cases are admitted as cured. Decayed teeth are found in 90 per cent. of cases and about 10 per cent. of the children suffered from enlarged tonsils and adenoids. After removal of enlarged tonsils and adenoids a systematic and prolonged course of breathing exercises should be insisted on. In 87 per cent. of the children the cervical glands were palpable and 13 per cent. had defective vision. Fifteen in 4000 children have been found to be mentally deficient. These children should not be taught in ordinary schools, but they should be collected in a special class and instructed by a specially selected and experienced teacher. Very little tuberculosis was found, and pulmonary tuberculosis was practically non-existent.

J. ALLAN.

Physical training in schools for children ('*Post-Grad.*,' August, 1910, p. 801).—**Ling Taylor** considers for cripples special schools are necessary under orthopædic supervision. They deal with those disabled by malformation, injury, paralysis, bone or joint disease, etc. Many are anæmic and undersized, or have lung, kidney, or other organic disease. This may be active or latent, or cured. These cases must be handled individually. They require special consideration in the matter of transportation, fresh air, nourishment, occupation, exercise, rest, etc. The first point to be settled is whether such a child should go to school at all, or have hospital or other treatment. The next question is whether the cripple should go into a regular or special class; the latter should only be employed when absolutely necessary owing to active disease for which jackets or splints are used, causing walking or standing difficult. These should be supervised by a visiting nurse to supervise home treatment and to see that the physician is consulted at proper intervals. Gymnastics are rapidly being considered useless owing to their formal character, but the physical activities of each child should be regulated by the orthopædic surgeon in charge of the case.

J. PORTER PARKINSON.

School provision for physically defective children ('*School Hygiene*,' 1910, p. 322).—**R. C. Elmslie** discusses this question at considerable length. The duties of the school medical officer to physically defective children are: (1) The separation of children who are physically unfitted to attend the ordinary schools; (2) the supervision of children who show some defect of physique, whether they are in ordinary schools or are in special schools, to see that they are in no way harmed by the school routine of work or of play; (3) to advise the parents of such children when medical or surgical treatment is necessary; (4) the supervision of the instruction given to these children, which should be such as will fit them for an occupation suited to their physical defect. The following classification is given of children found in the schools for whom special arrangements have to be made: (i) Cripples with active disease; (ii) cripples with fixed deformity; (iii) phthisical children with active disease; (iv) phthisical children in the convalescent or quiet stage; (v) chronic invalids from such conditions as heart disease and chronic chorea; (vi) delicate nervous children; (vii) severe cases of malnutrition; (viii) children with combined

defects, *e.g.* crippled and mentally defective. First in importance among the crippled children come those with tuberculous disease of the spine, joints and bones. Three important points concerning tuberculous bone disease have a bearing upon the educational methods to be employed—the onset of the disease, the prolonged rest required, and the liability to recurrence. Rest and fixation of the diseased part are absolutely necessary and are best carried out in a resident hospital school. It has also to be remembered that children in this section and the other groups are in after-life less favourably situated than healthy children in the matter of earning their livelihood. Great care is therefore necessary to prescribe the most suitable instruction in each case. The following are the chief institutions for physically defective children: (1) Resident hospital schools; (2) resident sanatorium schools; (3) country recovery schools; (4) non-resident invalid day-schools; (5) non-resident open-air schools; (6) resident trade schools; (7) non-resident trade schools.

J. ALLAN.

Scoliosis among school children (*St. Petersburg. med. Woch.*, May 15, 1910, p. 281).—**Brennsohn** maintains that insufficient attention is paid by practitioners to this deformity; scoliosis never gets better of itself. Even the milder forms do much havoc in later years, to say nothing of the ugliness of the deformity. After briefly mentioning the usual hygienic precautions to be taken in school he concludes that there should be daily gymnastic exercise of half an hour for all children, but every case of scoliosis should be sent to an orthopædic institute for treatment; remedial measures should not be undertaken at school.

M. D. EDER.

The care of the teeth during school life (*School Hygiene*, 1910, p. 682).—**R. D. Pedley** emphasises the great importance of dental hygiene during school life. After referring to some points regarding the development of the teeth, he points out several conditions which are responsible for the poor teeth of the present generation. He strongly urges the view that the food taken constitutes an important factor in this connection. The practice of giving soft food fails to afford the exercise necessary for the growth of healthy teeth. Dental caries is the disease by which most teeth are destroyed. Preventive measures are important which are more than simple oral cleanliness. Not only should school medical officers and teachers be trained, but every medical student should have an elementary knowledge of dental disease. The children should be instructed by diagrams and object-lessons how valuable teeth are in the economy of the body. In every large school basins should be provided with water-taps over them and unbreakable cups, a tooth-brush for every child with its number, racks where they may be placed with the names and numbers on. The "tooth-brush drill" will then be a reality instead of a farce, and this wholesome recreation will save much money in the future. Dentists should be appointed to treat existing disease. This is not only as a method of prevention, but is absolutely essential for the welfare of the children.

J. ALLAN.

The feeding of school-children (*The Dietetic and Hygienic Gazette*, September, 1910; abstr. *Medical Rev. of Rev.*, 1910, p. 606).—**L. S. Bryant** reviews the result of an inquiry regarding the value of feeding school-children by providing lunches at cost or at a nominal price. The paper is a preliminary communication, and deals with the question of school lunches as

worked out in different countries. The need for this work in New York is revealed by the fact that there are probably about 10 per cent. of cases of malnutrition of a type amenable to relief by means of these lunches in the public schools of the City. An interesting point in the investigation was the possible connection between mental effects and malnutrition. In over one thousand children in New York City who were in special classes for mental defectives, 60 per cent. were found to be under-nourished. Teachers of such special classes report an improvement in the "educability" of their pupils after regular feeding. In Europe school feeding has assumed an importance lifting it above the rank of a minor supplement to education. Begun as a relief measure, or as an aid to enforcing school attendance laws, it developed into a well-organised school function as its bearing on school progress became apparent. What has made school feeding a national issue, however, was the alarm felt over the physical deterioration of the English population, as reflected in the large number of recruits rejected upon physical examination. This movement for the conservation of the race has since then spread to Germany, Denmark, Italy, France, and other countries. The question of school lunches is coming to the fore-front in our large American cities, where the conditions of housing, occupation and feeding are operative in causing the physical deterioration of the tenement dweller.

J. ALLAN.

The feeding of necessitous school-children, the medical examination of school-children, and the incidence of infectious disease (*The Medical Officer*, 1911, p. 6).—J. King Warry points out that in the Borough of Hackney during the past year the number of cases of infectious disease, especially scarlet fever and diphtheria, has been below the average. This decrease he attributes to two circumstances: (1) The feeding of necessitous school-children; (2) the medical examination of school-children. The birth-rate in Hackney has kept fairly constant of late years, so that the number of persons at susceptible ages is probably much the same as before. By the feeding of necessitous school-children it is argued that their power of resistance will be increased, and that they will not be so liable to contract infectious disease. By the medical examination of school-children it is possible to detect those suffering from enlarged tonsils and adenoids or other unhealthy throat affections—conditions which the author believes predispose to such infectious diseases as diphtheria and scarlet fever.

J. ALLAN.

Lordotic albuminuria and school hygiene (*Wien. klin. Wochens.*, January 5, 1911; *Abstr. Journ. A.M.A.*).—Piesen found that the children inclined to lordotic albuminuria developed it when they were obliged to sit with their arms crossed behind them—a frequent school attitude. Study of the subject in a large number showed that this attitude has a directly injurious influence on the kidney and is liable to induce albuminuria. The predisposition to lordotic albuminuria seems to be more pronounced the taller the child for its age. The facts observed confirm Lury's assumption that movability of the kidney is the decisive factor in lordotic albuminuria.

T. R. WHIPHAM.

Classification of lazy children (*Lyon Méd.*, 1910, cxv, No. 51, p. 1030).—E. Weigert, Medical Inspector of the Municipal Schools at

Lyons, contributes this paper, which is of value to those interested in school hygiene. He divides lazy children into three large categories: (1) Sub-normal children, amenable to the teacher. (2) Abnormal children, amenable to both teacher and doctor, *i. e.* idiots, imbeciles, backward children, unstable children, epileptics, hysterics, neurasthenics, and the vicious. (3) Diseased children, those intermittently lazy owing to (*a*) lesions of the nervous system; (*b*) lesions of the digestive system and faulty feeding; (*c*) lesions of the lymphatic system, glandular hypertrophy, and adenoid vegetations; (*d*) lesions of the organs of sense; (*e*) intoxications as alcohol, carbonic acid, and carbonic oxide; (*f*) incubation of infectious diseases and pretuberculosis; (*g*) chronic diseases, renal and cardiac.

VINCENT DICKINSON.

Child labour in factories (*Journ. Roy. Inst. Public Health*, 1910, p. 677).—**T. W. Heywood**, after discussing the legal enactments which relate to this matter, gives his personal experiences of the conditions prevalent in certain districts of Lancashire. He strongly supports the employment of "half timers," and he does not think that any benefit would accrue to the child or the community in the county of Lancashire by interfering with the present existing regulations. He finds that half-timers afford (relatively) fewer rejections than do full-timers, and that half-timers when they become full-timers do not exhibit signs of physical deterioration. The benefit derived is held to be due to the child being able to have additional and better nourishment. The author pleads for more elasticity with respect to the age for starting work, and he believes that there may be circumstances which justify the factory surgeon passing the child at the age of twelve.

J. ALLAN.

Treatment.

Artificial abscesses in young children (*Med. Press.*, 1911, I, p. 16).—**Montagnon** has treated successfully with artificial abscesses twenty-six cases of severe broncho-pneumonia in infants ranging from the age of four months to five years. To obtain the best possible effects this method of treatment should not be employed at the outset of the malady. About the third or fourth day, if, in spite of mustard baths and inhalations of oxygen, the temperature remains high and dyspnoea is constant, injections of turpentine may be employed. In the case of infants under twelve months not more than one third of the contents of a Pravaz syringe should be used, and between that age and five years half a syringe should not be exceeded. The injection is made in the right or left hypochondrium three finger-breadths from the umbilicus. Inflammatory reaction commences on the following day, but is not defined until the end of forty-eight hours. About the sixth or seventh day pus is formed and the abscess should be opened. Injections of turpentine have not only a therapeutic action but also a diagnostic and prognostic signification. If suppuration is not produced the reason is to be found in an exhausted organism, and the same is the case when the temperature after two or three days has not fallen; in such a case the broncho-pneumonia is generally tuberculous.

T. R. WHIPHAM.

Tracheotomy and intubation in diphtheria before and after serum treatment (*Berlin. klin. Woch.*, 1910, p. 1313).—**H. Timmer**.—Since the employment of antitoxin at the Emma Children's Hospital in Amsterdam a relatively much smaller number of patients have required operation than

before. Thus from January 1, 1890, to October 24, 1894, of 1087 patients admitted 55 per cent. were tracheotomised or intubated, whereas out of 4220 admitted between October 24, 1894, and January 1, 1909, only 29 per cent. required operation. The mortality for intubation or tracheotomy in the first and second years of life was 90 and 70 per cent. respectively in the pre-antitoxin era, as compared with 64·9 per cent. and 40·6 per cent. since the employment of antitoxin. In the older children the fall in the mortality following these operations was still greater. The average mortality for all operated cases was 55·2 per cent. in the pre-antitoxin era, as compared with 26·8 per cent. since the introduction of antitoxin.

J. D. ROLLESTON.

The treatment of infantile dysentery by calomel and injections of silver nitrate (*La Clin. Infant.*, 1910, No. 19, p. 590).—**L. Revillet**, finding that the administration of ipecacuanha to young subjects gave rise sometimes to syncopal attacks, now prescribes enemata of nitrate of silver. For infants up to four or five years: Boiled distilled water 120–150 gr.; nitrate of silver ·05 to ·10 gr.; laudanum 1 to 4 drops. For children above this age: Boiled distilled water 150 to 250 gr.; nitrate of silver ·10 to ·15 gr.; laudanum 4 to 8 drops. The laudanum is used to render the silver salt better tolerated. The urgent symptoms begin to diminish after the first injection, but they should be continued once or twice every twenty-four hours for two or three days. The following night one dose of calomel is given, 0·15 gr. to 0·30 gr. according to age; this may need to be repeated after 48 or 72 hours. Diet consists of rice-water acidulated with lemon-juice, which has a marked anti-dysenteric action. For very young infants a little milk is added. Later, astringents, such as tannigen, bismuth, and rhatany, may be given.

VINCENT DICKINSON.

Agar-agar in the treatment of constipation in childhood (*Journ. Amer. Med. Assoc.*, 1910, II, p. 934).—**Morse** advocates the use of agar-agar for constipated children. It absorbs and retains moisture during its passage through the intestines, and thus increases the bulk of the fæces without the formation of hard masses. The difficulty is to induce children to take it: they will not take it dry or mixed with milk and sugar like a cereal. The best way is to cut it up into flakes about the size of bran and cook it in with the cereal, or it may be given in broth or soup provided it is thoroughly cooked (several hours' boiling is necessary) before it is added. It has almost no taste but a gelatinous feel in the mouth. The dosage is indefinite, but children of four to five years need as a rule about a drachm daily. A preparation of the substance compounded with cascara is on the market under the name of "Regulin."

T. R. WHIPHAM.

Hæmophilia treated by transfusion (*Med. Record*, 1910, II, p. 624).—**Milton Hahn** records a remarkably successful result in a case of hæmophilia in an infant aged 1 year. The mother, herself unaffected, was one of a markedly hæmophilic family. The child had accidentally knocked out a tooth and had bled continuously from the gum for a week. When first coming under treatment he was extremely anæmic. For three days various measures were tried—local compression, application of diphtheria antitoxin, administration of calcium lactate, injection of sterile gelatine—but the oozing continued. The child became unconscious, the pulse rapid and feeble and

the respirations deep and rapid, indicative of air-hunger. The hæmoglobin content of the blood had sunk to 11 per cent. and the child was regarded as certainly moribund. The patient's father had his radial artery anastomosed to the femoral vein of the child, and for fifteen minutes the blood was allowed to flow. The infant rapidly recovered consciousness. There was no further bleeding from the gum or from the operation wound. Five weeks later the child was discharged well, the blood being normal in composition. Its coagulation time, which had been from fifteen to eighteen minutes, was reduced to nine minutes.

REGINALD MILLER.

Epidural injections in the treatment of enuresis (*Ann. de Méd. et de Chir. Infant.*, March 1, 1910).—**Sisto** states that the epidural space is more favourable for the absorption of drugs than the subcutaneous or gastric route, owing to the number of veins in that region. He reports the case of a girl, aged 14 years, who was completely cured of life-long nocturnal enuresis by the epidural injection of less than 5 c.c. of physiological salt solution at the body temperature. There has been no recurrence during a period of over two years. The author recommends the method when all other measures have failed, but he has not found it invariably effectual. Zubizarreta had a favourable experience with twelve cases, and Bordot has recently cured five out of eleven children in this way.

T. R. WHIPHAM.

The therapeutic use of sea-water in infants (*Arch. of Pediat.*, 1910, xxvii, p. 593).—**R. M. Menick** describes the results of his experience in treating infants by subcutaneous injections of sea-water as advocated by Dr. Robert Simon, of Paris. The injections were used in twelve cases of bronchopneumonia in which the children were dangerously ill. Only three recovered, and in these the sea-water seemed to relieve the dyspnoea. In sixteen cases of congenital debility and in nineteen cases of gastro-enteritis in which this method of treatment was employed the results obtained were not in accordance with those of Dr. Robert Simon. The subcutaneous use of saline fluid has long been recognised as of great benefit, especially when there is any disturbance of the circulatory system, as in shock or in the disturbances of the vasomotor centres in infectious fevers. In such conditions normal salt solution acts as a stimulant, and it is precisely this action which the injections of sea-water sometimes produces. The results obtained by other observers appear to be similar.

JAMES E. H. SAWYER (Birmingham).

Vaccine treatment (*Indian Med. Gaz.*, 1910, p. 301).—**Maj. T. H. Delany, I.M.S.**, reports, for the benefit of those who have no laboratory at hand, the method he adopted to prepare a vaccine in a case of sepsis under his charge. A Hindu child, aged 7 years, fell from a tree and sustained a compound fracture of the left humerus. As the result of tight bandaging by a native, gangrene set in, and amputation became necessary. The wound suppurated and the boy began to lose ground steadily. Fourteen days after the operation there was retention of urine and pain over the bladder. On examination a swelling was noticed in the pelvis and upper part of the left thigh close to the symphysis; two days later the urine contained pus. Next day the swelling was incised and a large abscess found containing pieces of necrosed bone. On removal this bone proved to be almost the entire pubis and a great part of the ischium. In all probability the bone had been fractured at the time of the fall. The pus from the two wounds had the same appearance and a similar smell. The emaciation advanced. A vaccine

was prepared by inoculating an agar plate with pus from the arm; a subculture was then made on an agar slope and incubated at 37° C. for twenty-four hours; this in turn was washed off by sterile saline and carbolic acid was added to 5 per cent., and the whole was then subjected to a temperature of 60° C. for half an hour. Two minims of this vaccine were injected, but the reaction which followed showed that the dose was too large. Six days later half a minim was injected, and the temperature, which was previously about 103° F., fell to 99° F. and remained steady. Six days later the dose was repeated and the temperature afterwards remained normal. After five inoculations at six-day intervals the patient left the hospital cured.

DUNCAN C. L. FITZWILLIAMS.

Reviews.

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A NEW and valuable periodical entitled 'Encyclopédie Médicale' has just been published. Its object is to supply a monthly bibliography of current literature from medical journals. The first number contains forty-six pages, but we have been able to find only four references to English publications, an omission which might be rectified with advantage in future numbers.

F. R. B. A.

LE RACHITISME ET SA PATHOGÉNIE. By Prof. A. B. MARFAN, Médecin de l'hôpital des Enfants Malades. 1 vol. in-18 de 93 pages. Paris: J. B. Baillière et fils, 19, rue Hautefeuille. Boards. Price 1.50 fr.

PROFESSOR MARFAN does not accept any of the six hypotheses, which he quotes as having been put forward to explain the ætiology of rickets. In his monograph, which appears as one of the "Actualités Médicales," he elaborates a new hypothesis, which, though revolutionary, will demand due consideration on account of the author's eminence. Rickets, according to his view, is not a special disease, but a syndrome due to various chronic infections and intoxications during the later months of intra-uterine life and the first two years of independent existence. The skeletal changes in rickets represent the reactions of the bone-marrow and cartilages in early life to chronic infections and intoxications. In every case of rickets there should therefore be a focus of infection or intoxication, and a diagnosis of "rickets" is insufficient and comparable to one of "enlarged glands" or "splenomegaly." In every case a diligent search must be made for some underlying cause, such as elementary intoxication, syphilis, tuberculosis, prolonged broncho-pneumonia, chronic suppuration of the skin, and so forth. The connection of this somewhat startling conception is the most important part of the work, which, in addition, contains a full description of the disease, interesting remarks on congenital and late rickets, and a brief outline of the treatment.

H. D. R.

ALLERGIE. By Dr. CLEMENS FRH. VON PIRQUET, Professor of Pædiatrics at Breslau University. Pp. 96. 30 illustrations. Berlin: Julius Springer, 1910. Price 3-60 m.

THIS work, which summarises the author's numerous monographs, is a concise review of present-day knowledge on the subject with which it deals.

The term *allergy*, or modified reaction, was proposed by von Pirquet in 1906 to denote the alteration in the response of the animal organism to antibody-producing substances, induced by repetition of the original infecting dose. The expression is free from teleological bias, and it is pure Greek. It is thus preferable on the one hand to *anaphylaxis*, and on the other to *hyperimmunisation*.

After a brief historical retrospect the author discusses the signs of *allergy* as shown in the *serum disease*. The relations of the immediate and accelerated reactions are fully considered.

The author's views on allergy in reinoculation with *vaccinia* are of special interest. There is, according to von Pirquet, no immunity to revaccination to the extent of complete absence of response; and undoubtedly most revaccinations recorded as negative are allergic in von Pirquet's sense. The protective value of allergic revaccinations against smallpox is scarcely touched on here. It offers a field for very useful inquiry.

The various well-known *tuberculin* reactions and the *mallein* test for glanders are plainly set forth as allergic phenomena. The suggestion that the renal complications of *scarlet fever* are allergic is also noted.

The work concludes with an exposition, which is aptly illustrated by diagrams, of the *theory* of allergy in its relation to diphtheria, the serum disease in men and animals respectively, revaccination, tuberculosis interrupted and intensified by measles, diagnostic tuberculinisation, and other conditions. Nothing could be more lucid than this theoretical section. It clears up many clinical difficulties.

The *bibliography* is comprehensive: the references number 272.

J. R. C.

ON SCARLET FEVER (THE SECOND PART OF THE DISEASE) (ÜBER SCHARLACH: DER SCHARLACHERKRANKUNG ZWEITER TEIL). By Dr. DIONYS POSPISCHILL and Dr. FRITZ WEISS. Berlin: S. Karger, 1911. Pp. 147. Price M. 5.

THIS work is based on observations extending over seven years made on 3605 children suffering from scarlet fever at the Wilhelmine Hospital in Vienna. The writers have applied the term "second illness" (zweiter Kranksein) to a syndrome arising between the second and sixth weeks of scarlet fever and consisting of the following principal symptoms: (1) Fever, (2) glandular enlargement, (3) throat affection, (4) nephritis, (5) scarlatinal heart.

The different varieties of temperature are illustrated in fourteen charts. Of the secondary throat affections, bulging of the soft palate, usually unilateral, is regarded as the earliest and most constant phenomenon. In the section on glandular swellings, after a description of cervical and submaxillary adenitis allusion is made to occasional involvement of the axillary, inguinal, and portal glands. The authors think that portal adenitis, the existence of which they have often verified post mortem, may sometimes account for the jaundice

which is met with in the "second illness." The different clinical varieties of nephritis are discussed, and an account is given of an interesting experiment, which proves that scarlatinal nephritis is not dependent upon the character of the diet, since it was almost as frequent among 1186 patients fed on milk, in whom it occurred in 9.78 per cent., as in an equal number given a meat diet, in whom it occurred in 9.95 per cent. In the writers' opinion scarlet fever is never the cause of chronic heart disease. According to them inflammation of the valves is a metastatic phenomenon occurring only in septic and pyæmic cases, which invariably end fatally. "Scarlatinal endocarditis is a phantom."

Several pages are devoted to the discussion of relapses, of which four varieties are described, and also to return cases, which occurred in 3.15 per cent. In the chapter on treatment anti-streptococcic serum is declared to be a failure. For mastoid abscess a single incision is recommended, and a radical operation is considered inadvisable.

This work is a valuable contribution to the clinical study of scarlet fever, and can be cordially recommended to those who are not likely to be repelled by a florid style and an ultra-Germanic involvement of the sentences.

J. D. R.

Obituary.

THEODOR ESCHERICH.

WE regret to announce the death of Theodor Escherich, Professor of Pædiatrics at Vienna, on February the 15th, 1911, in his fifty-fourth year. He united in a remarkable degree the qualities of pathologist, clinician, teacher, and organiser. He was an extremely prolific writer, but is best known by his work on the intestinal flora of infants, on tetany, tuberculosis, diphtheria, and infection of the urinary passages of children by *B. coli*, sometimes known as Escherich's bacillus. Since 1888 he had been on the editorial staff of the 'Jahrbuch für Kinderheilkunde.' His ability for organisation was shown by his modernisation of the St. Anne Children's Hospital at Vienna and by the establishment of a new clinique for the study of children's diseases. He also founded a school for children's nurses and a society for the protection of infant life. For some years he had shown signs of arterio-sclerosis, and his premature death was due to apoplexy.

GIUSEPPE MYA.

GIUSEPPE MYA, President of the Italian Pædiatric Society, died at Florence on February the 6th, 1911, in his fifty-fourth year. Since 1900 he had been Professor of Clinical Pædiatrics at Florence and Director of the Institute for Children's Diseases. In 1903, in conjunction with Concetti, he founded the 'Rivista di Clinica Pediatrica.' He was also on the editorial staff of the 'Clinica medica Italiana' and the 'Monatsschrift für Kinderheilkunde.' He was the author of numerous papers on children's diseases, such as megacolon congenitum, infantile splenic anæmia, influenzal meningitis, and diphtheria.

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THE RELATION OF NASAL OBSTRUCTION TO ARTICULATORY CAPACITY.

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for Nervous and Mental Diseases.*

INTRODUCTION.

THE object of the present paper is to record the results of a number of investigations in which the consonantal articulatory capacity of 700 children was precisely estimated and correlated with the degree of nasal obstruction existing; with these as a basis an attempt will be made to determine the relative importance of nasal obstruction in producing articulatory defects. It has long been known that nasal obstruction is the chief cause of a certain variety of dyslalia, which will presently be specified, but no sufficiently systematic studies have been made to establish the extent to which it is concerned in the production of *general* dyslalic troubles; it is with this latter question that the present paper deals.

The typical dyslalia caused by nasal obstruction is that termed by Kussmaul* *rhinolalia clausa*, which has been carefully described

* Kussmaul, 'Die Störungen der Sprache,' 1885, S. 253.

by H. Gutzmann,* Rouma,† Treitel,‡ and others. This is characterised by a difficulty in the enunciation of the sounds *m*, *n*, *ng*, which frequently are replaced by *b*, *d*, respectively, and by the addition of a disagreeable nasal clang to the whole speech, especially to the vowel sounds. It is a common speech defect. Westergaard§ found it present in 0.48 per cent. of 34,000 normal school-children in Copenhagen, and this is an extremely conservative estimate. Of 21,394 cases of dyslalia in Hungary, Sarbo|| found that 11 per cent. were suffering from closed rhinolalia; of 542 more carefully investigated cases Westergaard¶ found that 53 per cent. were suffering from it, a difference largely due to non-comparable methods of examination. The general clang defect is much more frequent than the inability to enunciate a given nasal consonant; Mehnert,** for instance, found that of children with *blesitas* (defective enunciation of consonants) only 0.3 per cent. failed with either *m* or *n*, and Treitel†† notes the same fact.

Although most writers state that the defective utterance due to nasal obstruction is usually confined to a small group of consonants, others, such as Bresgen,‡‡ Liebmann,§§ etc., attribute to this factor a more extensive rôle, and give it as the chief cause of many cases of dyslalia, a view that the present investigation does not confirm. The current opinions are similarly divergent with regard to the incidence of rhinolalia in nasal obstruction; thus Winckler||| states that it is rare in chronic tonsillitis, and Mehnert¶¶ finds that only 2.5 per cent. of cases of dyslalia arise from nasal obstruction, whereas Cassel*** found 21 cases of dyslalia in 51 children with nasal obstruction.

MATERIAL.

The present study is based on the investigation of the consonantal articulatory capacity of 700 London school-children—386

* H. Gutzmann, 'Von den verschiedenen Formen des Näsels,' 1902.

† Rouma, 'La parole et les troubles de la parole,' 1907, p. 66.

‡ Treitel, 'Grundriss der Sprachstörungen,' 1894, S. 24.

§ Westergaard, 'Nationalökonomisk Tidsskrift,' December, 1897.

|| Sarbo, 'Monatsschr. f. Sprachheilk.,' 1901, Jahrg. xi, S. 66, 76.

¶ Westergaard, *loc. cit.*

** Mehnert, 'Über Sprachstörungen,' 1904, S. 15.

†† Treitel, *loc. cit.*

‡‡ Bresgen, 'Monatsschr. f. Sprachheilk.,' 1901, Jahrg. xi, S. 97.

§§ Liebmann, 'Vorlesungen über Sprachstörungen,' 1898, Heft 2, S. 63.

||| E. Winckler, A. Gutzmann's 'Festschrift,' "Sprachstörungen u. Sprachheilkunde," 1908, S. 42.

¶¶ Mehnert, *op. cit.*, S. 13.

*** Cassel, 'Monatsschr. f. Sprachheilk.,' 1903, Jahrg. xiii, S. 223.

boys and 314 girls. These are divided into two groups, which were selected by the teacher according to whether they showed "normal" or "defective" speech respectively. The first group comprised 469 children, a full account of whose articulatory capacity has been published elsewhere*; the second comprised 231 children. The distinction is thus a practical one, for it relates to the speech capacity as noted from an educational point of view, and the two groups must be separately considered.

METHOD.

The reader is referred to a previous paper† for the detailed description of the technique adopted in the examination. Shortly stated this was as follows: The children were each tested with 227 different consonantal sounds, and marks were allotted according to the standard of clearness attained in enunciation. The results, therefore, relate to nearly 160,000 tests, most of which were repeated. The method adopted was such as to ascertain the *maximum* articulatory capacity under the most favourable circumstances, and for several reasons the marks obtained were calculated on a very low standard, so that often the speech of a child obtaining even 97 per cent. of marks was quite hard to understand. The marks are here given throughout in terms per thousand.

To estimate the degree of nasal obstruction present five standards were arbitrarily chosen, called respectively "*nil*," "*slight*," "*some*," "*considerable*," "*bad*"; one found it tolerably easy to place any given case under one of these categories.

A. *Normal*.

Of the 469 "normal" cases 254 were in boys, 215 in girls. The numbers appearing in each class are shown in the following table:

TABLE I.

	<i>Nil</i> .	<i>Slight</i> .	<i>Some</i> .	<i>Considerable</i> .	<i>Bad</i> .	Total.
Boys	41	122	64	24	3	254
Girls	35	94	62	23	1	215
Stated in percentage { Boys of the whole. { Girls	16·2 16·2	48·0 43·7	25·3 28·7	9·5 16·9	1·2 0·4	

* Ernest Jones, 'Internat. Arch. für Schulhygiene,' April, 1908, Bd. v, S. 137.

† *Ibid.*, November, 1907, Bd. iv, S. 186.

As the number of cases in the fifth class ("bad") are too few to warrant any conclusions being drawn from them, they will not further be considered. The average marks obtained in the other four classes are given in the next table.

TABLE II.

	Boys.	Girls.
Nil	985.2	983.5
Slight	972.1	981.3
Some	974.0	979.2
Considerable	967.2	979.5

From this table it would seem that nasal obstruction is with normal girls of no great importance in relation to general articulatory capacity, but is with boys of decided significance. This conclusion is supported by the following considerations.

In the next table the cases are divided into three groups—"low," "medium," and "high"; in the "low" group are placed cases having fewer than 970 marks, in the "medium" those having between 970 and 996 marks, and in the "high" those having 996 marks and higher.

TABLE III.

	Boys.				Girls.			
	Low.	Medium.	High.	Total in class.	Low.	Medium.	High.	Total in class.
Nil	8	13	20	41	7	12	16	35
Slight	29	42	51	122	22	39	33	94
Some	18	30	16	64	19	26	17	62
Considerable	12	8	4	24	7	10	6	23
Bad	2	0	1	3	1	0	0	1
Total in group	69	93	92	254	56	87	72	215

After converting these figures into percentages for comparative purposes, we may study them from two points of view. Table IV gives the numbers stated in percentages of the total number in each class (*i e.* of nasal obstruction).

TABLE IV.

	Boys.			Girls.		
	Low.	Medium.	High.	Low.	Medium.	High.
<i>Nil</i>	19.5	30.2	48.8	20.0	34.3	45.4
<i>Slight</i>	23.8	34.4	41.8	23.4	41.5	35.1
<i>Some</i>	28.1	46.9	25.0	30.6	41.9	27.1
<i>Considerable</i>	50.0	33.3	16.7	30.4	43.5	26.9

Contrasting first the four classes of obstruction in the boys, we note that of the "*nil*" class nearly a half are placed in the high mark group, and less than a fifth in the low. At the other end of the scale with the "*considerable*" class exactly the reverse is true, a half being placed in the low mark group and less than a fifth in the high. Between these extremes there occurs a uniform change in passing from one class to the next, so that the correlation between the degree of nasal obstruction and the percentage of cases appearing in the low or high mark groups respectively is very close indeed. There is a greater difference between the "*some*" and "*considerable*" classes than between the others, so that the last stage seems to be specially significant.

Considering now the girls, we see that though on the whole the same correlation can be traced, it is certainly less striking. For instance, the "*nil*" class is divided in almost exactly the same way as the corresponding one with the boys, but the "*considerable*" class does not deviate from this to anything like the same extent as that of the boys.

The next table gives the numbers stated in percentages of the total number in each *group* (*i. e.* of marks obtained).

TABLE V.

	Boys.			Girls.		
	Low.	Medium.	High.	Low.	Medium.	High.
<i>Nil</i>	11.9	14.0	22.0	12.7	13.8	22.2
<i>Slight</i>	43.3	45.2	56.0	40.0	44.8	45.8
<i>Some</i>	26.9	32.3	17.6	34.5	29.9	23.6
<i>Considerable</i>	17.9	8.6	4.4	12.7	11.5	8.3

26·8 per cent. of all the boys belong to the "low" group, 36·8 per cent. to the "medium," and 36·4 per cent. to the "high"; with the girls the corresponding percentages are 25·7, 40·6, and 33·6. Thus the "group" division is sensibly the same in the two sexes, as was also the "class" division. Any difference between the two sexes in the tables can therefore be attributed only to the factor of nasal obstruction, for the total marking and the general incidence of nasal obstruction are practically the same with both.

Considering first the boys, we see that a higher percentage of those with "low" marks belong to the classes of much obstruction, as contrasted with those belonging to the classes of slighter obstruction, than is the case with those getting "high" marks. Thus the "low" mark group is almost equally divided between the first two classes of obstruction (55·2 per cent.) and the last two (44·8 per cent.), whereas with the "high" mark group there are more than three times as many in the first two classes (68 per cent.) as there are in the last two (22 per cent.). In other words, the worse is the articulatory capacity the greater is the amount of nasal obstruction.

With the girls the last two classes (of much obstruction) are more numerous in both the "low" and "high" groups than with the boys. Consequently, though a similar difference between these two groups is found as in the case of the boys, it is much less marked.

The incidence of nasal obstruction being about the same in the two sexes, it would therefore seem that a given degree of instruction produces, probably through the resulting impairment of auditory acuity, a more harmful effect on the articulatory capacity of boys than on that of girls. This supports the hypothesis I have elsewhere put forward* that the articulatory capacity of boys develops only by means of hearing, while that of girls develops also by means of vision (unconscious lip-reading). Partial deafness is thus more deleterious to the speech of boys than to that of girls, because the latter have another source of education, namely, the eye. The greater incidence of nearly all forms of speech defect in boys is well known, a fact I would in part explain by this difference in the development of speech in the two sexes.

B. *Abnormal.*

Of the 231 "abnormal" cases, *i. e.* with gross articulatory defects, 132 were boys and 99 girls. The numbers in each class of nasal obstruction are shown in the following table:

* Ernest Jones, Sixth International Congress of Psychology, August, 1909, BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, vi, p. 413.

TABLE VI.

	<i>Nil</i> .	Slight.	Some.	Considerable.	Bad.	Total.
Boys	15	34	40	26	17	132
Girls	10	25	29	22	13	99
Percentage of total	{ Boys 11·3 Girls 10·1	{ 25·7 25·2	{ 30·3 29·2	{ 19·7 22·2	{ 12·9 13·1	

Here again it will be noticed that the incidence of the different degrees of nasal obstruction is sensibly the same in the two sexes.

The average marks obtained by the five classes of obstruction are given in the next table.

TABLE VII.

	Boys.	Girls.
<i>Nil</i>	879·9	781·5
Slight	868·8	890·3
Some	882·2	824·9
Considerable	868·6	828·6
Bad	921·4	895·4

Here no correlation whatever is obvious between the degree of nasal obstruction and the number of marks, *i. e.* the efficiency of articulation. In fact, the class with most obstruction ("bad") is in both sexes the one with the best articulation, and with the girls that with the least obstruction has by far the lowest marks.

TABLE VIII.

	Boys.				Girls.			
	Low.	Medium.	High	Total in class.	Low.	Medium.	High.	Total in class.
<i>Nil</i>	5	5	5	15	4	5	1	10
Slight	12	9	13	34	7	10	8	25
Some	10	16	14	40	10	11	8	29
Considerable	9	13	4	26	4	10	8	22
Bad	2	9	6	17	4	5	4	13
Total in group	38	52	42	132	29	41	29	99

A similar conclusion is reached if the results are further analysed. In Table VIII the cases are arranged in three groups according to the marks allotted; in the "low" group are those with fewer than 850 marks, in the "medium" those with between 850 and 960 marks, and in the "high" those with more than 960. These arbitrary standards are chosen so as to obtain an approximately equal triple division.

These figures may, as with the normal cases, be considered from two points of view after converting them into percentages. The next table gives the numbers stated in percentages of the total number in each *class*.

TABLE IX.

	Boys.			Girls.		
	Low.	Medium.	High.	Low.	Medium.	High.
Nil	33.3	33.3	33.3	40.0	50.0	10.0
Slight	35.3	26.5	38.2	28.0	40.0	32.0
Some	25.0	40.0	35.0	34.5	37.9	27.6
Considerable	34.6	50.0	15.4	18.2	45.5	36.4
Bad	11.8	52.9	35.3	30.8	38.5	30.8

The total lack of regularity in progression is striking in this table. With the boys the percentage of cases in the "considerable" class appearing in the "high" group is much lower than that of the first three classes ("nil," "slight," and "some"), but with the "bad" class the minimal group is the "low" one; on the other hand, with the first three classes the grouping is almost the same in each. With the girls the same absence of order is evident. The "bad" class shows a more favourable mark grouping than either the "nil" or the "some" class; the worst grouped class is the "nil" one, and the best the "considerable."

The next table gives the numbers stated in percentages of the total number in each *group*.

The percentage number of boys in each group is 28.7, 39.3, 31.8 respectively, the corresponding numbers with the girls being 29.3, 41.4, and 29.3. Thus here also, as with the normal cases, the incidence is about the same in the two sexes. In this table, as in the last, there is no trace of orderly progression or of even the roughest correlation between the degree of nasal obstruction and the mark grouping, *i. e.* the articulatory capacity. This lack of correlation

cannot be entirely due to the relatively small number (231) of cases investigated, as it is so gross. It is possible, and, indeed, probable, that such a correlation would be traced if a much greater number of cases were taken, but the factor of nasal obstruction is evidently of slight significance, and is easily submerged by more important ones.

TABLE X.

	Boys.			Girls.		
	Low.	Medium.	High.	Low.	Medium.	High.
<i>Nil</i>	131.1	9.6	11.9	13.8	12.2	3.4
<i>Slight</i>	31.6	17.3	30.9	24.1	24.4	27.6
<i>Some</i>	26.3	30.8	33.3	34.5	26.8	27.6
<i>Considerable</i>	23.7	25.0	9.5	13.8	24.4	27.6
<i>Bad</i>	5.3	17.3	14.3	13.8	12.2	13.8

CONCLUSIONS.

Two definite conclusions emerge from this study :

(1) In average school-children (469 cases, 106,500 tests) the articulatory capacity for consonants is found to vary with the degree of nasal obstruction. The dependence of the capacity on this factor is not very close, but is much more decided with boys than with girls. The incidence of nasal obstruction being equal in the two sexes, it would seem that a given degree of it produces, through partial deafness or in some other way, a more harmful effect on the articulatory capacity of boys than on that of girls. This is in harmony with the author's hypothesis, previously put forward, that hearing is more essential in the acquirement of speech with boys than with girls, the latter making use of a second channel of education, lip-reading, which is shut to boys.

(2) In children with gross articulatory defect or dyslalia (231 cases, 52,000 tests) no correlation whatever was found between the extent of this defect and the degree of nasal obstruction present. Investigation of a larger series might reveal a slight correlation, but nasal obstruction is evidently not an important cause of dyslalia in general, and any action it may have is readily obscured by that of more important factors.

BENIGN CYST OF THE TIBIA.*

By H. A. LEDIARD, F.R.C.S.,

Surgeon to the Cumberland Infirmary, Carlisle.

On August the 14th, 1910, a girl, aged 14 years, was brought to the Cumberland Infirmary on account of a large swelling in the lower third of the left leg, which had been growing for nine months so far as it had been observed. At first there was no pain, but more recently, when weight was put on the leg, as in walking, pain was felt. During the three months prior to admission the swelling in the leg had increased considerably.

On the left leg a well-marked swelling of the tibia was seen, which involved the lower third of the bone, reaching almost to the ankle-joint. The swelling was uniform in outline and pear-shaped, the widest part being above the ankle and the apex tapered off into the normal bone above. The swelling was firm to the touch and the skin over it was tightly stretched, but not adherent. No egg-shell crackling was obtained. There was no alteration in the colour of the skin over the swelling, nor were any vessels visible. No tenderness was present except on firm pressure. There was no rise of temperature locally nor generally, and the general condition of the girl called for no comment.

In order to discover the nature of the swelling a trephine was used over the inner aspect of the swelling. The bit of bone removed was exceedingly thin and presented no obstacle to the saw. The finger discovered a large cavity in the bone, which contained a clear watery fluid, slightly tinged with blood. No spicules of bone were detected, but a smooth thin membrane lined the cavity. The bone appeared to be very thin and expanded uniformly all round. The fluid from the cyst was not saved for examination. A few days later the limb was amputated at the knee-joint. The girl recovered, and left the hospital on October the 1st.

There are a few points which call for remark: The swelling of the bone was consistent with a sarcoma, or with tubercular disease of the medulla, and, as matters turned out, with a cyst of the bone. The absence of constitutional disturbance gave no indication in any special direction. There was no egg-shell crackling. The age of the girl favoured the presence of sarcoma, but the surface of the swelling was even all over and shaded off above into the normal

* Paper read at the Royal Society of Medicine, Clinical Section, on March the 10th, 1911.

bone at the junction of the middle and lower thirds of the limb. When the trephine was used, it was seen that an expansion of the bone into a thin shell was the disease to be dealt with.

Radiography.—Prior to any interference a radiograph was taken, which shows a uniform smooth-surfaced swelling of the tibia, and a light shadow in contrast with the dark one of the healthy bone of the shaft above the cyst. At the lower part the swelling ends abruptly at the level of the epiphysis.

To those experienced in the radiography of bone cysts the radiograph of this case may be conclusive. Beek was the first to allude to the diagnostic differentiation of bone cysts by radiography. He said—"The radiograph yields a clearly bounded line of cortex of the thickness of letter paper, forming a frame for a quite transparent oval surface of spindle form. The cohesion of the outer rind is nowhere broken. The epiphyses are normal." Lexer has attributed a high value to the radiography of bone cysts, but other observers have not been so impressed. Rumpel has concluded that cysts of bone can be distinguished from sarcomata by radiography. In 1907 Jones and Morgan wrote on "Benign Cysts of the Long Bones," and stress was laid by them on the value of radiography in the diagnosis. Since then Mr. Hugh Lett has published a radiograph of a cyst of the humerus, upon which he operated with success. There can be no doubt that radiography is of great value in aiding the diagnosis of these cases, even if it cannot be said to give a conclusive verdict when it is brought into use in bone cysts.

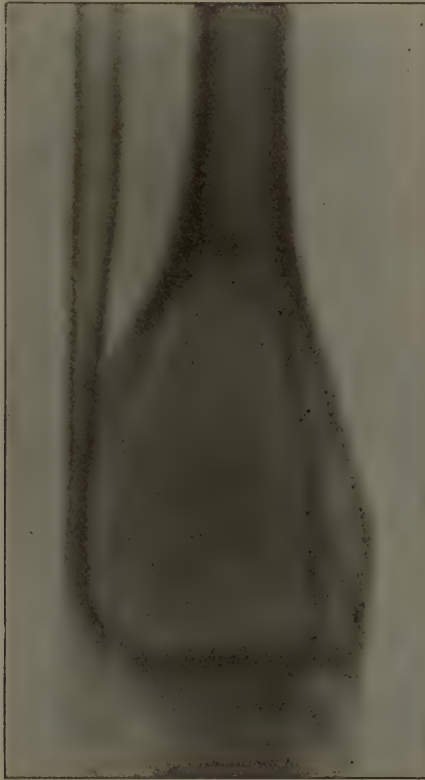
In my case the radiograph shows no thin dark line bounding the cyst suggestive of the thin shell of bone which was found and can be seen in the specimen or photograph.

Treatment.—Owing, to some extent, to the length of time which it was proposed to take for the examination of the bone removed by the trephine and the bit of lining membrane of the cyst—viz. ten days—it was decided to deal with the case as one of probable sarcoma, and an amputation through the knee-joint was done. Seeing how large the cyst really is, and how thin a shell of encasing bone is shown, I question whether any conservative method of treatment would have afforded the girl a useful and reliable support for the weight of the body—*e. g.* by such a method of treatment as has been adopted in a case of cyst of the humerus by Mr. Hugh Lett.

In the present case amputation was resorted to because the diagnosis leaned to a malignant growth, and not because the limb might have been unserviceable if a less drastic means had been adopted.

The cyst. — The cyst measures $3\frac{1}{4}$ in. in length and $2\frac{1}{4}$ in. in breadth. The shell of the bone is very thin, and before long egg-shell crackling would have been present, and a great liability to fracture. The interior of the cyst is not quite as even as the ex-

FIG. 1.



ternal subcutaneous surface felt, for the inner wall shows numerous small septa of bone, forming parts of smaller cysts, lying against the thin outer shell, but no spicules of bone are seen.

The fibula was unaltered, but ere long this bone would have supported the weight of the body alone.

The epiphysis of the lower end of the tibia projected into the interior of the cyst, and though normal in thickness the surface of the cartilage is at one point seen to be invaded or eroded, and the subjacent bone is not normal in colour or as normal as other parts. The cyst suggests the expansion of one large cyst and the presence

of numerous small cysts of unequal size at the periphery, showing no regularity in arrangement.

The growth of the cyst was actively proceeding in all directions,

FIG. 2.



upwards in the shaft of the bone, backwards in the direction of the Achilles tendon, forwards as well as downwards, invading the epiphysis. Reference to the photograph will show the changes in the epiphysis and in the bone-shell which have been described.

Microscopy.—There is no evidence that the cyst has developed from a growth, and no cartilage was found in connection with the cyst formation. The formation appears to be caused by a process of absorption, probably starting in the marrow and gradually ex-

tending outwards with expansion of that part of the shaft. The wall of the cyst varies at different parts. Near the upper and anterior part the cyst membrane is extremely thin and closely adherent to the altered and atrophied bone, or bone in course of atrophy. Lower down complete absorption of the bone-shaft has taken place, and the membrane is in close contact with the periosteum. A part shows that the process of absorption is spreading through and destroying the epiphysial cartilage line and invading the epiphysis. The membrane lining the cavity is of a loose structure and slightly adherent to the altered and expanded bony tissue or periosteum.

The microscopical characters of the cyst wall consist merely of altered bone in an active process of absorption due to the action of numerous phagocytic cells and osteoclasts (giant-cells). The process of repair is also taking place as represented by granulating tissue making up the "cyst wall."

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THREE CASES OF ENLARGED THYMUS IN INFANTS.

By RUPERT WATERHOUSE, M.D., M.R.C.P.Lond.,

Pathologist and Assistant Physician to the Royal United Hospital, Bath.

CASE 1.—A male child, aged 3 months, was admitted to the Royal United Hospital on September the 6th, 1910, on account of urgent dyspnœa. Since birth the child had been observed to have some difficulty of breathing, but this had become much more marked in the last few days. On admission the infant was pallid rather than cyanosed and obviously very ill: its temperature was 97° F., pulse 132, breathing hurried, 44 to the minute, with inspiratory dyspnœa and stridor. The head was thrown somewhat back. There was much sucking in of the supra-clavicular fossæ and of the lower part the chest during inspiration.

Nothing abnormal could be seen or felt at the back of the throat. Tracheotomy was performed, but without relief to the symptoms, and half an hour later the child died.

At the post-mortem examination the thymus was found to be greatly enlarged. Its weight was 34 grm., length 3 in., breadth 3 in., and its thickness, from before backwards, just over three quarters of an inch. It was paler and much firmer than normal, and instead of the flattened, elongated, somewhat indefinite structure usually met with, was pyramidal in shape with well-defined boundaries, the apex of the pyramid, the size and shape of the extremity of a man's forefinger, peeping up for about half an inch above the upper opening of the thorax. The larynx and trachea appeared natural. The largest mesenteric glands were the size of large peas. The spleen was not weighed, but its volume was approximately half that of the thymus. The tonsils, thyroid, heart, lungs, kidneys, adrenals and liver appeared normal.

On examination of the thymus it was found that though the division into lobes was well marked there was no indication of further subdivision into lobules. The cut surface was pale, smooth, and homogeneous.

Microscopical examination of the deeper parts of the gland showed an almost entire absence of trabeculæ; nearer the surface the connective tissue which normally separates the lobules was much compressed and atrophied; everywhere the diminution of stroma was conspicuous and epithelioid cells very scanty. Hassal's corpuscles were fairly numerous, but on the whole appeared to be smaller than normal.

CASE 2.—A boy, aged 10 months, was brought to the hospital on November the 17th, 1910, for vomiting and diarrhœa. A mixture containing mercury and bismuth was prescribed, and on the following day its mother thought the child had recovered. It remained apparently well for two days, but on the third day, whilst being bathed, suddenly died.

Post mortem, the heart and lungs appeared normal; the spleen weighed 23 grm.; the bronchial glands, liver, kidneys and adrenals seemed normal; the glands in the mesentery were enlarged to about the same size as in the previous case.

The thymus weighed 24 grm. Soft, pink, elongated and enlarged, no differences save that of size could be discovered between it and the normal organ. Division into lobules was well marked. Microscopically it resembled the thymus of Case 1 except that lobulation was well marked, and that in many of the perivascular

spaces were to be seen scattered groups of spherical mononuclear cells each about twice the diameter of a lymphocyte.

CASE 3.—A well-nourished and hitherto strong and healthy infant, aged 9 weeks, was found on April the 14th, 1907, dead in bed by the side of its mother, with whom it slept. At the post-mortem examination, made on the following morning, the following appearances were noted: The head and neck were mottled and livid and contrasted sharply with the body and limbs, which were white. There were no marks of constriction of the neck and the lividity and mottling did not end abruptly, but shaded off into the dead white colour of the trunk.

The thymus was enlarged and its shape resembled that of Case 1, the increase in size being chiefly in breadth and depth. It was paler and firmer than normal. The heart and pericardium were healthy. The innominate veins and the veins of the head and neck were noticeably dark and distended, but the blood elsewhere was not particularly dark or fluid. The right side of the heart was not engorged. The larynx and trachea contained a little frothy mucus but were otherwise natural. The lungs were mottled with spots of congestion. The tonsils were not large. There were no enlarged glands in the neck, chest or abdomen. The spleen did not appear to be increased in size. The brain was healthy.

Whilst enlargement of the thymus is frequently discovered in infants in whom sudden death from apparently trivial causes has taken place, the mode in which the fatal result is brought about in these cases has been the subject of much diversity of opinion. The earlier views that death was the effect of mechanical causes, such as pressure of the bulky thymus on the trachea, on the large blood-vessels or heart, or on the vagi, has been replaced by the supposition, advanced by Paltauf, that these patients possess a peculiar "lymphatico-chlorotic" constitution (*status lymphaticus* or *lymphatism*), in which dissolution is proved to occur from sudden failure of the cardiac and respiratory centres.

Although the large number of cases which have been reported of recent years, especially in connection with death occurring during the administration of anæsthetics, lend considerable support to this view, it is certain that in some cases the mechanical effect of pressure on the important structures passing through the upper opening of the thorax is the important factor. J. S. Fowler (1) quotes Virchow as saying, "I possess a preparation from a child who died from asthma, in which the thymus is so greatly enlarged that I cannot see how one can deny the possibility that the dyspnoea was

caused by its pressure." Osler (2) refers to Siegel's case ('Berl. klin. Woch.', 1896, No. 40), in which tracheotomy was performed on a boy, aged $2\frac{1}{2}$ years, diagnosed as having laryngismus stridulus, without relief; "but when subsequently the anterior mediastinum was opened from above by extending the incision from the tracheotomy wound, a piece of the thymus as large as a hazel-nut appeared with each inspiration. The gland was drawn up with forceps and fastened by three stitches to the fascia over the sternum. The child rested quietly after the operation, had no dyspnoea, and made a complete recovery."

Similar cases are recorded by Purruicker, Erhardt, Rehn, and König.(3)

In a case reported by Carpenter (4) in a boy, aged 10 months, in whom death occurred from asphyxia, the trachea was found post mortem to be greatly compressed from before backwards by a large thyroid, but there was, in addition, diphtheritic membrane in the trachea.

Deneke (5) relates the case of a child, aged 5 years, subject for three years to attacks of syncope and blueness after fits of crying. During complete repose the face was almost normal, but with the least effort or cry the subcutaneous veins swelled up and filled the supra-clavicular fossæ, especially the left, whilst the veins in the middle line became as large as the finger. Operation was performed, the capsule of the thymus opened, and a portion of the gland as large as a pigeon's egg enucleated from each lobe. Eight months later there had been no further syncopal attacks, and the veins of the neck were markedly diminished in volume.

The three cases on which this article is based seem to afford additional evidence that, in children, death may be caused by an enlarged thymus in different ways. There can be little doubt that in the first case death was occasioned by pressure of the firm wedge-shaped thymus on the trachea at the upper opening of the thorax, and had the child come under observation rather earlier, and, on tracheotomy failing to relieve its distress, had a portion of the thymus been enucleated, as in the instances referred to above, in all probability the life of the infant would have been saved.

Case 2 was doubtless one of lymphatism, and death resulted from the condition which, since so little is known about it, it is pleasant to call "lympho-toxæmia."

The mode of death in the third case is not so clear, but there was a strong impression amongst those present at the autopsy that pressure on the great veins had in some way contributed to the fatal

result, an impression produced by the distension of the veins of the head and neck together, with an absence of the usual signs of death from asphyxia. A study of these three and of other recorded cases renders it probable that whilst the most common form of enlargement of the thymus is a true diffuse hypertrophy, or, rather, a hyperplasia of all the several elements of which the gland is composed, a condition in which obstructive effects are little likely to occur, there is, apart from malignant disease, another and less common morbid condition in which the gland becomes, as it were, tightly packed with small lymphocytes at the expense of the supporting structures, a condition in which, as a consequence of the swelling and increased firmness of the gland, pressure effects are to be feared. The subsequent history of the patients operated upon shows that neither sarcoma nor leukaemia are likely causes of the enlargement in these cases:

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London Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, April the 28th, 1911.

Dr. E. CAUTLEY, *President, in the Chair.*

Von Jaksch Anæmia.—Mr. SHEFFIELD NEAVE.—The patient was a girl, aged 1 year and 10 months, who presented an enlarged spleen and liver and slightly enlarged glands in the inguinal and maxillary regions. The erythrocytes, among which were poikilocytes, normoblasts, and megaloblasts, numbered 2,570,000 per c.mm., and the leucocytes 19,300, of which 66·6 per cent. were lymphocytes. The hæmoglobin value was 40 per cent. The child showed signs of rickets, and the Wassermann reaction was present. Improvement had occurred under arsenic and iron.

Dr. J. W. CARR discussed the relationship of the disease to syphilis and rickets.

Congenital Syphilis treated by "606."—Dr. J. L. BUNCH. The boy was admitted at the Queen's Hospital for Children on January the 2nd, 1911, when fourteen weeks old. When three weeks old he developed a running from the nose, which increased until the nostrils became swollen, and a profuse muco-purulent rhinitis was present. A papular eruption also showed itself on the buttocks, thighs, soles of the feet, neck, and face. Mucous tubercles appeared round the anus and at the angles of the mouth, in which large numbers of the *Spirocheta pallida* were found. When admitted to the hospital the child showed evidences of malnutrition. His weight was 4 kilos. He had not been given mercury in any form.

On January the 4th a dose of 0.04 grm. freshly prepared salvarsan was given intra-muscularly in the subscapular region. The dose was, therefore, one of 0.01 grm. per kilo. of body-weight. On January the 5th the temperature rose to 100° F., and there was a well-marked swelling round the point of injection. The child improved considerably from day to day, and by January the 19th the mucous tubercles, both round the anus and the mouth, had quite gone, and the snuffles had ceased. The skin was clear, except for some mottling and discoloration at the site of the previous lesions. The Wassermann reaction, however, was still positive.

Congenital Heart-disease without Murmur, and with a Family History of Congenital Cyanosis.—Dr. F. PARKES WEBER.—The patient, a girl, aged 2½ years, is said by her mother to have been weakly from birth. She easily gets out of breath, and there is cyanosis of the fingers, toes, nose, and lips, which varies in degree from time to time. No cardiac murmur can be detected, but the apex-beat is slightly displaced to the left, and by Röntgen-ray examination the heart appears to be somewhat enlarged. She cannot yet walk. The cyanosis and tendency to get out of breath date from birth. The mother, who looks a healthy woman, has had four other children, and no miscarriages. Two of the four other children were cyanotic from birth, and died at the age of five months and at the age of three days respectively. The two remaining children, aged 9½ years and 10 weeks respectively, are living, and are said to have shown no signs of heart disease. In the patient's case the existence of an aperture in the inter-ventricular septum or in the inter-auricular septum, or in both, is highly probable.

Congenital Heart Disease with Congenital Malformation of the External Ear.—Dr. F. PARKES WEBER.—The patient, a boy, aged 4 years, has a congenital malformation of the right external ear, but presents no other abnormality, excepting in regard to his heart. The right side of the heart extends somewhat too far to the right, as shown by the cardiac dulness and by Röntgen-ray examination, and there is a variable systolic murmur, best heard over the lower portion of the cardiac area, just to the left of the sternum. The murmur does not commence immediately after the first sound, but occupies the second portion of the systole, ending with a loud second sound. There is no cyanosis, dyspnoea, or oedema, and no evidence of congenital syphilis. The boy is the second of four children, and there is no history of congenital deformities in any other members of the family. He has had good health, except for whooping-cough two years ago, and

measles with "pneumonia" recently. The murmur may possibly be connected with a patent foramen ovale. Cyanosis in such cases is by no means necessary.

Chronic Pyæmia of Five Years' Duration following Suppurative Epiphysitis of the Upper End of the Humerus.—Mr. DOUGLAS DREW.—In February, 1906, the child met with an abrasion of the right knee. A week later the left shoulder became swollen, and an abscess formed, and was opened. This was rapidly followed by suppuration of the right elbow- and knee-joints, and abscesses in connection with the bones of both forearms, for which he was sent to the Queen's Hospital. During the past five years he has had thirty-eight abscesses opened. Some of them have been due to osteomyelitis, but the majority have been subperiosteal. In a few of the earlier ones there was a small sequestrum, but in the later ones no necrosis was present. The intervals between the abscesses varied from one to seven months. In 1908 a course of autogenous vaccine was given, but without any appreciable effect, and during the last twelve months he has had further injections, in spite of which he has within the last month developed two more abscesses in the forearm. The interesting feature about these last two abscesses is that no micro-organisms could be grown from them, which suggests that the poison is gradually becoming less virulent. The micro-organism found in the abscesses was the *Staphylococcus pyogenes citreus*.

The movements of the knee- and elbow-joints which suppurated are normal.

A Case of Asymmetry of the Pelvis (Naegele); Partial Suppression of Left Lateral Wing of the Sacrum; Scoliosis.—Mr. A. H. TUBBY.—A girl, aged 12 years, attended the Royal National Orthopædic Hospital in January, 1908, complaining of weakness in the back. On examination there was muscular and ligamentous weakness of the back. The left posterior superior spine of the ileum was situated at a shorter distance from the middle line than the right. On accurate measurement the distance of the left posterior superior spine of the ileum from the middle line was $1\frac{1}{4}$ in. and the right was $1\frac{5}{8}$ in.

A skiagram was taken which showed partial suppression of the left lateral wing of the sacrum.

In September, 1908, a scoliosis had developed of the dorsal spine to the right with considerable rotation backwards of the right ribs and the right scapula, with also commencing rotation in the lumbar region.

Double Congenital Club-hand of the Radio-palmar Variety, with Absence of Radius on both Sides.—Mr. A. H. TUBBY.—Patient, aged 1 year and 8 months. An unusual case, inasmuch as the development of the metacarpal bones and phalanges appears to be perfect.

Malformation of Femur.—Mr. O. L. ADDISON.—The child is aged $2\frac{1}{2}$ years. The right is smaller than the left, about 2 in. shortening. The femur is much curved, and there is a marked degree of coxa vara. The leg was first noticed to be shorter than the other when the child was ten months old. No history of injury.

Tumour on Back, probably Dermoid.—Mr. O. L. ADDISON.—A swelling the size of a fowl's egg has been present since birth in the middle

line over the lower cervical vertebrae. It is covered by normal skin, and on the apex is a small opening, from which a whitish, muco-purulent discharge occurs. In the base of the tumour there is a nodule about the size of a hazel-nut; it feels hard, like cartilage or bone, and is not fixed to the vertebrae.

A Preliminary Communication on Syphilis and Mental Deficiency.

—Dr. E. BELLINGHAM SMITH and Dr. A. W. G. WOODEFORD—A record of three cases in children, aged 1, 3, and 6 years respectively, two of whom belonged to the same family. One suffered from eclamptic idiocy and two from spastic diplegia. There was an entire absence of the usual syphilitic stigmata, but the blood of each child gave a positive Wassermann's reaction. The fathers also gave a positive reaction, but the mothers were negative. The authors came to the following conclusions: (1) Nervous lesions or mental deficiency may be the only evidence of inherited syphilis. (2) Mild unrecognised or untreated syphilis may produce the same nervous lesions in the offspring as in the parent. (3) It is important to determine the syphilitic factor in a case of mental deficiency, and institute such treatment as will prevent the occurrence of further cases in the same family. (4) The diagnosis of inherited syphilis by Wassermann's reaction alone indicates the value of the test, and suggests that more cases of mental deficiency are due to syphilis than is usually suspected. (5) The absence of a reaction in the mothers is difficult to explain. Perhaps maternal infection is not always necessary for transmission of the virus to the child; or, on the other hand, the reaction itself was not always infallible.

The cases and paper were discussed by the PRESIDENT, Dr. R. HUTCHISON, Dr. BELLINGHAM SMITH, Dr. WEBER, Dr. E. LANGMEAD, Mr. P. L. MUMMERY, Mr. W. M. BURGESS, Mr. DREW, Dr. T. B. HYSLOP, and Dr. J. D. ROLLESTON.

MEDICAL SOCIETY OF LONDON.

April the 24th, 1911.

Tetany and Dilatation of the Colon (a New Syndrome).—Dr. LANGMEAD called the attention of the Society to a symptom-complex which had found no place in the literature. It consisted of three parts: (1) Intractable and relapsing tetany; (2) dilatation of the colon; and (3) unhealthy and offensive motions. In the majority of the cases there was considerable physical and mental backwardness. The tetany was peculiar in that it affected children past the usual age, and was very chronic and liable to relapse, sometimes lasting for years. It depended upon the state of the motions rather than upon the amount of dilatation, and was almost certainly due to absorption of toxins from the stagnant contents of the dilated colon, since other evidences of toxæmia, such as œdema and albuminuria, were occasionally present, fever was the rule, and relief was often obtained by washing out the colon. The dilatation of the colon was not always associated with hypertrophy, and possibly in some cases was only temporary. The paper was based on fourteen cases, seven of which showed the syndrome in its complete form; in three tetany had only been

seen once, and in the remaining four Chvostek's sign was the only manifestation of the tetanillic state. He pointed out that it was difficult to understand why only a very small percentage of children with dilatation of the colon suffered from tetany, and suggested that it might be explained either by the incidence of a specific infection or by inadequate protection due to inefficiency of the thyroid or parathyroid glands. (AUTHOR'S ABSTRACT.)

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Friday, April the 7th, 1911.

Injury to Humerus.—MR. DUNCAN C. L. FITZWILLIAMS showed a girl, aged 6 years, who had had three injuries to the lower end of the right humerus as the result of falls upon the elbow, two of which had caused partial separation of the lower epiphysis, while the third had caused severe bruising, but no anatomical deformity had been noted at the time. All the injuries had been sustained during the last three years and all had been treated with the arm in the position of extreme flexion. At the present time the function of the elbow-joint was excellent, both flexion and extension bring normal in range and the limb was as strong as its fellow. On extending the limb, however, the carrying angle was noticed to be altered and reversed. The X rays showed that the growth of the bone had been greater on the outer than on the inner side, and also showed irregularities marking the position of the epiphysis at the dates when the injuries were received.

Tuberculous Disease of the Upper Epiphysis of the Femur.—MR. O. L. ADDISON showed a boy, aged 9 years, whom he had first seen two years ago. There was a history of pain in the right hip and limping consequent on a fall six months earlier. The boy seemed healthy; the right leg was slightly wasted and one quarter of an inch shorter than the left. Flexion at the hip was as absolutely free as on the sound side; abduction, adduction, rotation and extension were absent. The X rays showed slight destruction of the inner half of the epiphysis of the femur. He had been kept in a single Thomas splint for two years and had had 1000 mgr. tuberculin once a month. There was now half an inch shortening, rotation was free, abduction slightly limited, and flexion perfect. The X rays showed mushrooming of the epiphysis and increased thickness of the femoral neck.

Congenital Syphilitic Osteomyelitis.—MR. O. L. ADDISON also showed a child, aged 14 years, who first came under notice three years ago with a history that swellings had appeared ten weeks previously on the left arm and leg; these swellings had gradually increased in size and had then burst, leaving discharging sinuses. The child was well grown, but showed a facies characteristic of congenital syphilis. The left humerus and the lower half of the left tibia were greatly increased in size, and sinuses leading to the bone were present at the lower end of the tibia and both ends of the humerus. X rays showed a very large amount of new periosteal bone for the whole length of the humerus and lower end of tibia; clear areas close to the epiphysal lines in the medulla. Operations for removal of sequestra were done in April and October, 1908, and in July, 1909, the wounds finally

closing in May, 1910. The child had been under treatment with mercury and iodide all the time.

At present the left humerus was much thickened and was one inch shorter than the right; there were numerous depressed adherent scars. The left tibia was also thickened and irregular in its lower half and was a quarter of an inch longer than the right. Wassermann's reaction was still slightly positive.

Philadelphia Pediatric Society.

MEETING, March 14, 1911, J. TORRANCE RUGH, M.D., President.

Edebohl's Operation.—Dr. E. B. HODGE showed the kidneys from a girl of eight years, removed at autopsy six weeks after a second double decapsulation. The patient was exhibited before the Society nearly two years after the primary operation, in good health, with no albumen or casts in the urine. Six months later, following bronchitis, œdema reappeared with albumen and casts. She recovered from this and several similar attacks, but spent about nine months of 1910 in hospitals, the last four months continuously in the Children's Hospital. As she was losing ground steadily, in spite of the care and attention of Drs. Griffith and Gittings, double decapsulation was performed the second time on December 1, 1910. The main clinical facts before operation were high grade œdema, low urinary output (the daily average being four ounces), and lack of uræmic symptoms. After operation the œdema subsided, to return in less degree in ten days, accompanied by ascites. The patient was more comfortable and the amount of urine larger, but never free from albumen or casts. At operation the fatty capsule stripped off easily, showing a condensed inner fibrous surface. No definite fibrous capsule could be demonstrated, even on incision of the cortex in several places in each kidney, although the primary operation was done nearly two and a half years ago. Dr. C. Y. White reported that the microscope showed no definite capsule. There was, however, a two-thirds fibrous tissue cell layer, probably newly formed capsule. The specimens showed marked chronic parenchymatous nephritis. The left kidney weighed 154, the right 70 grammes.

Dr. E. E. GRAHAM said that in 1905 he had collected eleven cases of decapsulation of the kidneys in children for nephritis. In only one had decapsulation of both kidneys been done a second time; in a boy of ten years with chronic nephritis. He did well for twenty-one months after operation; the second operation did little if any good. There was no report of death or recovery of this case. A careful study of these cases showed that if the illness was acute or subacute, rapid improvement might follow decapsulation. Most of the reported cases occurred in hospitals, and it was difficult to continue the proper treatment after the child left the institution. Dr. Graham's patient always improved after returning to the hospital. Many operators believed that a decapsulated kidney became enveloped in a much thicker capsule than existed previous to the decapsulation, from three to four months after the operation; this apparently did not occur in Dr. Hodge's case. Of his eleven cases five died and four pro-

bably recovered; two showed no improvement. All would probably have died without operation.

Dr. A. A. ESHNER asked whether Dr. Hodge believed that the operation prolonged the life of this patient.

Dr. HODGE answered that the first operation was undoubtedly life-saving. She remained well for over two years afterwards. The second operation was not successful. In well selected acute cases the operation was certainly indicated. This child, while well in the hospital, grew worse every time she returned home. Dr. Hodge knew two other children upon whom the operation was done successfully, who kept well for five and six years after the operation. The patient was even without albumen and casts for some time.

Anterior Poliomyelitis.—Dr. R. S. McCOMBS reported a case of acute anterior poliomyelitis occurring in a child at five months of age. The permanent paralysis involved the right seventh cranial nerve, giving a typical right-sided Bell's palsy and the shoulder group of muscles of the left arm. The third cranial nerve was likewise involved early, but this paralysis cleared up. The case was reported on account of the very early age of the child and the peculiar distribution of the resultant paralyses. Dr. McCombs also called attention to the fact that in the epidemic of 1910 involvement of the brain had been observed more frequently than in previous years.

Dr. J. H. McKEE said that he had seen several similar cases last summer. He reported these cases in detail.

Dr. HERBERT FOX said that these patients as a rule had a good family history. While the New York report indicated that diarrhoea usually was an early symptom, and this fact was noted in Dr. Combs' case, it had been his experience in two epidemics that constipation was more common. Among two hundred cases only three developed facial paralysis, which paralysis was accompanied by other paralyses. Among these two hundred twenty were cerebral cases. The New York report mentioned one case aged two years, but the history was not given. Dr. Fox had seen it in a child of three months. Monoplegia with facial paralysis was common according to foreign reports, and facial paralysis rarely cleared up in these cases, although the monoplegia might disappear. The facial paralyses were frequently permanent. Previous speakers had said that the cases of cerebral involvement, or those of the Landry type, were more common now than formerly. This had not been Dr. Fox's experience. In Western Pennsylvania in 1907 there were many cases of encephalitis diagnosed as cerebro-spinal meningitis, which naturally brought down the percentage of the encephalitic type. The greater familiarity with the disease during our last epidemic increased the number of recognised polioencephalitides.

Dr. ESHNER said that as this facial paralysis was part of an acute poliomyelitis, and of nuclear origin, it should not be regarded as true Bell's palsy, which is a peripheral paralysis.

Dr. T. H. WIESENBERG said that he did not know of a case similar to that of Dr. McCombs, in which there was not only a palsy of the seventh nerve but also of the third. In the recent epidemic he had seen more cases of cerebral involvement than previously, and thought it was especially severe. Such cases as this bore out the fact that poliomyelitis was not a disease of the spinal cord but a general infection of the whole cerebro-spinal system, and were further evidence that the pathology must be revised, and that cases of so-called superior or inferior encephalitis of Wernicke must

be included. Dr. Weisenburg thought that the twitching in the facial distribution on the side opposite the facial paralysis at the time of its onset was very interesting, and indicated that there apparently was an irritation of this nucleus; but this could be easily accounted for by the fact that these nuclei were close together.

Intracranial Pressure.—Dr. HARRY LOWENBURG showed a boy of nine years whom he had first seen when eight years old. He had then had severe headache for ten days. His head was large. The slightest motion caused pain; temperature was subnormal. Removal of adenoids afforded no relief. Eye examination by one ophthalmologist, November 29, 1909, showed no evidence of central pressure. Another ophthalmologist saw the boy December 6 and found double optic neuritis on making the diagnosis of brain tumour. The first ophthalmologist saw him again December 7, and found evidence of hæmorrhage. This showed how rapidly the optic changes occurred. X-ray examination of the head proved nothing. Upon potassium iodide and bichloride of mercury all symptoms disappeared. Dr. Lowenburg considered the cause of the intracranial pressure to have been either specific disease or an acute exacerbation of a chronic or arrested internal hydrocephalus. He believed the latter to be the correct diagnosis.

Brain Tumours in Children.—Dr. T. M. WEISENBURG said that they were rare in childhood. In a collection of about forty, only two occurred in children below twelve; but quite a number occurred in young adults, especially girls, between fifteen and twenty years of age. Of the tumours seen in consultation or hospitals during ten years of neurological practice, he had seen only five in children under twelve years, and these were either glioma or tuberculoma occurring in the brain stem or cerebellum. The other forms of tumour were rare. Occasionally, as in one of his specimens, cerebrospinal meningitis might leave as a terminal phase an abscess in the pia, but this was most unusual. The symptoms did not differ from those presented by adults, with the exception that if they occurred in children below four years of age the symptoms were difficult to elicit, and one was dependent upon the demonstration of choked disc, the occurrence of Jacksonian convulsions and paralysis. Inasmuch, however, as most tumours occurred in the pons or cerebellum there would be such symptoms as paralysis of associated ocular movement and inco-ordinate gait. Internal hydrocephalus occurred probably more often in children than brain tumours. The symptoms were those of general increase of pressure with choked disc, but a differential diagnosis from tumours could not be made. It could be stated, however, that tumours generally caused death, whereas in internal hydrocephalus recovery could be expected either with or without treatment.

Dr. ESHNER said that cerebral tumours occurred rarely in childhood because tumours in general were rarely found in children.

Dr. W. S. CORNELL referred to a case, considered simply as a bad boy, in whom choked disc was found. Operation for intracranial pressure was performed, and the greater part of the cerebellum protruded and was lost. The symptoms of badness disappeared and the boy lived for some time. Intracranial pressure undoubtedly affected the boy's temperament.

Dr. WEISENBURG thought Dr. Lowenburg's case one of internal hydrocephalus, since the general symptoms of tumour with marked choked disc disappeared so rapidly. He had seen several such cases in children and adults, the symptoms disappearing, leaving only slight atrophy of the optic

nerves. In closing the discussion Dr. Weisenburg emphasised the rarity of tumours in children, and the fact that they were either tuberculous or gliomatous, and not gummatous as is the opinion of so many.

Non-diphtheritic Exudates.—DRS. S. S. WOODY and J. A. KELMER reported the results of study upon a series of cases treated in the wards of the Philadelphia Hospital for Contagious Diseases. All cases sent to the diphtheria and scarlet fever wards were cultivated on admission. When negative for Klebs-Löffler bacilli, special studies were made to determine the cause of the exudate. They divided their work into four groups: Vincent's, pneumococcic, streptococcic and staphylococcic anginas. Twenty-four cases were Vincent's angina, three being sent in with the diagnosis of diphtheria. Clinically they occurred in two groups, one characterised by a dirty yellow or brownish exudate with well-marked ulceration and sloughing covering the tonsils, uvula and soft palate; the other group of cases, frequently overlooked, attacked the gums. They bled easily, were easily separated from the teeth, and presented various degrees of ulceration along their free margin. This infection was easily diagnosed by bacteriological methods. Direct smears, stained with gentian-violet and carbolfuchsin showed the fusiform bacilli and spirilla causing the infection. The fusiform bacilli could be grown in pure culture, and probably represented early forms of the spirilla. Seventy-four cases were pneumococcic, and were interesting since this infection was so frequently overlooked. Clinically they were divided into three main groups, cases with well-marked tonsillar exudates, cases showing redness and cedema of the parts without an exudate, and a rarer type characterised by the presence of a perforating ulcer of the soft palate and ulcers of the buccal mucosa. The clinical picture varied and a clinical differential diagnosis from diphtheria could not be made with any degree of accuracy. As pneumococci are found in about 50 per cent. of healthy mouths, great caution was necessary in making bacteriological diagnosis. The diplococcus was frequently difficult to cultivate and differentiate from similar organisms. Smears were studied, cultures made on coagulated blood serum and isolation accomplished by streaking in plain and dextrose blood agar. Pure cultures were then stained for capsules and inoculated into inulin and lactose serum-water mixtures of Hiss and inulin bouillon of Duval and Lewis for acidity and coagulation. Typical streptococcic exudates were seen in scarlet fever; this might resemble diphtheria very closely. Of 1404 primary cultures of scarlet fever cases on admission, 214, or 15.24 per cent. showed the presence of diphtheria bacilli. Scarlet fever predisposed to diphtheria and the latter infection could be excluded only after repeated cultures had been made. Of 447 cases sent in as diphtheria, 5.59 per cent. were purely streptococcic. A staphylococcic exudate might also present the clinical appearance of diphtheria. One negative culture did not exclude the possibility of diphtheria, for in 20 to 30 per cent. of cases there was superimposed upon the diphtheritic membrane a secondary infection. Two or more cultures should be made, and the method of cultivation was important. They concluded that, while a typical case of diphtheria was readily recognised, there were other infections capable of producing deceptive diphtheria-like exudates; likewise diphtheria might give the clinical picture of lacunar tonsillitis. Those having the largest experience have been taught to be most cautious in making clinical diagnoses. Neglect to cultivate was one important reason why many cases of true diphtheria were treated as tonsillitis, and the disease thereby spread. Laboratory

methods were of considerable value in diagnosing these infections. To be of most value, the laboratory findings and the clinical observations must be used conjointly.

Dr. KOLMER added that Vincent's angina, which ought to be called Plaut's angina, could readily be diagnosed by a smear. The spirilla seemed to be a later form of the fusiform bacilli. It was very difficult to isolate pneumococci: they produced a peculiar ulceration of the uvula and buccal mucosa, especially with scarlet fever. Secondary infections might conceal diphtheria underneath.

Dr. H. L. HULL said that smears made at the time of cultivating readily showed Vincent's angina. The pneumococcic exudate was easily detached, leaving a clean surface. A patched uvula should cause antitoxin to be given at once. The guinea-pig test would show the virulence of the bacilli found. A severe sore-throat usually showed mixed infection; pain was not a prominent symptom in pure diphtheria.

Dr. FREDERICK FRALEY said that in his experience fusiform bacilli were almost always found easily in smears from cases of Vincent's angina, but that the presence of spirilla alone could not be considered at all conclusive, owing to the numerous organisms of that type occurring in practically normal mouths.

Dr. J. CLAXTON GITTINGS asked Dr. Woody whether pneumococcic exudates occurred primarily or with other infections.

Dr. D. J. M. MILLER emphasised the necessity of cultivating all sore-throats; also the importance of making more than one culture in all cases. He thought the younger men should familiarise themselves with cultural methods, especially those who practised at a distance from laboratories and city Health Boards. Marked constitutional symptoms, such as fever, prostration, etc., denoted mixed infection rather than pure diphtheria, as much as pain did.

Dr. ELEANOR C. JONES spoke of an irregular case of diphtheria that had recently occurred in her private practice. The throat was generally injected but there was no exudate on the tonsils or uvula, only a slight greyish film on the throat anterior to the pillars of the fauces. Cultures were pronounced positive both by the Bureau of Health and the Bacteriologist of the Women's Hospital. Antitoxin was promptly administered, but it did not affect the throat condition, although it promptly relieved the general symptoms of the disease. Such a case was most embarrassing to the physician, because of the uncertainty of the clinical diagnosis.

Dr. ALFRED HAND, JUN., said that the paper was of special interest to those who could recall the time when the bacteriological diagnosis of anginas was first adopted, which was also the time when antitoxin was introduced. The opponents of antitoxin, who could see no value in it, advanced the argument that the improvement in the death-rate was really caused by a stretching of the realm of diphtheria, through the use of cultures, to include many mild cases which formerly would not have been called diphtheria. There was a certain amount of truth in this criticism, and it was really necessary to do as suggested by Dr. J. M. Da Costa in a private conversation about a case in which Klebs-Löffler bacilli had been found:—"If that case was diphtheria, then it seems to me that we must revise our whole conception of the disease." So, while cultural diagnosis brought into diphtheria some mild cases, yet it probably, according to the author's results, excluded an equal number of cases clinically suggestive of diphtheria. If any defence of antitoxin were needed, an impregnable one would be found

in the results of the cases sent into the hospital as diphtheria in which the cultures are negative, the antitoxin administered on admission protecting those patients from developing the disease to which their environment exposed them. Certainly in pre-antitoxin days the admission of several hundred negative cases into diphtheria wards would have had a decided influence in raising the death-rate. And the fact that so many negative cases were sent to the hospital emphasised the importance of culturing all cases of tonsillitis.

Dr. WOODY stated that perforating ulcer occurred in severe cases of scarlet fever and was pneumococcic. The pneumococcic exudate was thin, separated without difficulty, and did not leave a bleeding surface. It was accompanied often by a peculiar pinkish or carmine colour of the buccal mucosa and lips. The same carmine colour might also be noted on the face and chest.

Dr. WHITE added that the smears made from cultures sent to the laboratory of the Board of Health were kept for three months, so that any physician could find out the exact nature of his cultures. Cases such as Dr. Jones reported occurred daily: a guinea-pig test would probably have shown virulent bacilli. These cases should be isolated as long as the throats showed bacilli.

Société de Pédiatrie, Paris.

March the 21st, 1911. (Bulletin No. 3.)

Emotional Jaundice in Children.—M. NOBÉCOURT related a case of long duration in a boy, aged 11 years, and M. MERKLEN a similar case in a girl, aged 8 years. In each case a severe fright or fit of anger was followed in three days by vomiting, anorexia, altered stools, and jaundice.

Lymphocytosis of the Cerebro-spinal Fluid in Chorea.—MM. RICHARDIÈRE, LEMAIRE, and SOURDEL read a paper on this subject based on fifteen cases—five in boys and ten in girls. In eleven the movements were more marked on one side, in eight on the right, and in three on the left; in six the patellar reflexes were exaggerated; in four there was combined flexion of the thigh and trunk; in one Babinski's sign was marked; in ten there was distinct hypertension; in seven increase of the normal amount of albumin; and in twelve a variable amount of lymphocytosis. Three were benefited by lumbar puncture, but in one instance the improvement was preceded by somewhat alarming symptoms. Examination of the cerebro-spinal fluid revealed a marked lymphocytosis in cases of true chorea, and was more constant than many of the signs of organic lesions hitherto described. Lumbar puncture was attended by no special dangers, and might in certain cases benefit the chorea and hasten recovery.

Disturbances of "Diadochokinesis" in Chorea.—M. MARFAN read a paper on the disorders of motility in this disease. He considered them constant and easy to demonstrate. The normal subject is capable of executing alternating movements in rapid succession, as for example, pronation and supination of the hand. Babinski called this function "diado-

cokinesis," and located its seat in the cerebellum. According to him the abolition or perversion of this function, "adiadocokinesis" or "dysdiadocokinesis," was an indication of change in the cerebellum, and proved that the cerebellum, or at least the fibres which joined it to the cerebral cortex, were involved in the choreic process, and favoured the organic nature of this disease. In ordinary chorea diadocokinesis was invariably disturbed, and in a marked and lasting manner. If the patient were told to put his forearms in the upright position, with the hands up, and to make rapid alternative movements of pronation and supination the following was observed: On the side least affected the patient nearly succeeded in making some alternative movements more or less regularly and fairly quickly; on the other side in which the chorea predominated he could not do this, but made two or three slow and irregular movements, and then stopped. The want of symmetry between the movements of the two hands allowed this kind of disturbance to be easily noticed. The presence of the sign was also of real clinical interest, and allowed an estimate to be formed of the evolution of the chorea. It appeared early, lasted throughout the disease, and persisted a longer or shorter time after apparent recovery. Chorea lasted much longer than the classic signs indicated, not for weeks only but at least two months, often three or four months; its long course was marked by periods of amelioration and aggravation. During periods of remission a cure seemed imminent, but shortly afterwards the disordered muscular movements became as marked as at the onset, and a fresh outbreak occurred. When recovery was delayed the dysdiadocokinesis always persisted in a marked degree; as long as it was present a relapse might occur. The patient must never be pronounced cured until this sign could no longer be elicited.

Tracheo-bronchial Adenopathy and Hypertrophy of the Thymus.

—M. AVIRAGNET related a case of mediastinal adenopathy in which were noticed during life all the signs usually attributed to hypertrophy of the thymus: inspiratory stridor, dulness at the upper end of the sternum, a retrosternal swelling seen on expiration, a radiograph shadow in the same situation, and dyspnoea incompletely relieved by intubation. The symptoms were due, not to mechanical compression of the trachea and bronchi by the glands, but to pressure on the nerves. (Woodcuts are given in the 'Bulletin').

M. MARFAN divided cases of chronic dyspnoea with stridor into three groups: (1) Stridor exclusively inspiratory, *i. e.* congenital vestibulolaryngeal stridor, and stridor from paralysis of the dilators of the glottis; (2) inspiratory and expiratory stridor, more marked, however, during inspiration, generally due to thymic tracheal stenosis; (3) stridor, exclusively expiratory, or more marked during expiration, apparently caused by tracheal stenosis or glandular bronchial stenosis. In M. Aviragnet's case an adenopathy gave rise to a stridor almost exclusively inspiratory, and the autopsy showed there was pressure on the nerves rather than on the trachea on bronchi. He would therefore place the case in the first group.

Ten Cases of Thymectomy. —M. VEAU reported these cases, arranged in four groups: (1) Dyspnoea with or without signs of suffocation; immediate and complete recovery; (2) congenital stridor, vestibular and thymic, the latter alone requiring operation; (3) spasm of the glottis; in one fatal case, not operated upon, an enormous thymus was found; (4) tracheo-bronchial adenopathy, in which operative results were unsatisfactory.

An interesting discussion followed.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Diabetes mellitus in children (*Norsk Mag. f. Lægerid.*, 1910, LXXI, p. 1078).—**T. Langaker** records seven fatal cases in children aged from four to eleven years. Five occurred in the same family within the space of nine years; the first four died in four years. The duration of the illness ranged from two to ten months (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, VI, p. 325). On two a necropsy was performed: in one nothing was found beyond slight fatty degeneration of the kidneys; in the other the pancreas alone showed any morbid change, consisting in parenchymatous degeneration and an overgrowth of the connective tissue. There was no history of tuberculosis, nervous diseases, or diabetes in the parents or grandparents in any of the cases.

J. D. ROLLESTON.

Continued subnormal temperature in infancy (*Journ. Amer. Med. Assoc.*, 1910, II, p. 822).—**Cheney** classifies the causes of continued depression of temperature in infants as—(1) Insufficient heat production; (2) excessive heat loss; (3) disturbed heat regulation; (4) diseases of metabolism. Under the first heading come those cases due to starvation or stenosis, to infantile atrophy or athrepsia, to prematurity and to inanition; under the second those caused by loss of body fluids, as in severe diarrhoeas or hæmorrhages, and perhaps also in certain skin diseases; under the third head those occurring in diseases of the heart or nervous system, and those due to drugs, unconsciousness or intoxication; the fourth head includes such diseases as anæmia, diabetes, and myxœdema. The writer records the case of a 3-months-old infant, who suffered from inanition and some gastro-intestinal indigestion. The latter soon cleared up, but for nearly five months the temperature was more or less continuously subnormal, once reaching 89° F. and frequently 92° F. and 93° F. The child on admission weighed 4½ pounds but had only gained 1½ pounds when discharged.

T. R. WHIPHAM.

Creatinin and creatin metabolism in children (*Journ. Amer. Med. Assoc.*, 1910, II, p. 1178).—**Sedgwick** upholds the view that creatinin is excreted by infants, and finds that it is present in the liquor amnii, which may mean that its excretion begins before birth. Creatinin is always in the urine during the first week and in a concentration approximately that of adult urine. Creatin is also excreted during infancy. In later infancy creatinin is present in the urine uniformly, but in a more dilute condition than in the case of adults or during the first week. The best and simplest test for these substances is that of Folin. With picric acid and sodium hydrate creatinin gives a brownish-red colour like a solution of potassium bichromate. The urine is treated with these reagents and the depth of colour is compared with that of a half normal bichromate solution, the creatinin content being determined by means of a colorimeter. Creatin may be estimated by boiling it with hydrochloric acid and thus converting it into creatinin, the amount of which is then determined as above. By the study of creatin and creatinin some help may be obtained as to the processes of nitrogen metabolism in disease.

T. R. WHIPHAM.

Gastric ulcer in children (*Charlotte Med. Journ.*, 1911, p. 89).—

W. O. Nisbet states that in the medical literature up to 1900 there were on record only three cases of peptic ulcer in children, described, one by Reher, one by Colgan, and one by Holt. Possibly the reason for the rarity of simple gastric ulcer in children was that they subsist largely on milk, the best acid-combining food. He reports four cases. The first, a patient aged 8 years, had suffered from repeated attacks of indigestion and epigastric tenderness. Twice whilst under observation small amounts of blood were vomited. Case 2, a boy, aged 8 years, had also experienced attacks of epigastric pain and tenderness, nausea and vomiting. On one occasion a tablespoonful of dark blood was vomited. In the third case, a boy, aged 9 years, similar attacks occurred and considerable hæmatemesis. He was also the subject of uncinariasis. The last case, that of a girl, aged 7 years, resembled the others, but she succumbed, apparently as the result of perforation following the administration contrary to orders of half an ounce of Epsom salts. The first case was of three months' duration and could be called acute: the remainder were of eighteen, twenty-four, and thirty-six months' respectively. He thinks that it is possible that gastric ulcer in children from five to ten years of age is commoner than is generally supposed, and that under the names "chronic gastritis" or "acute indigestion," cases of gastric ulcer are erroneously included.

FREDERICK LANGMEAD.

Duodenal ulcer in an atrophic infant (*Hospitalstidende*, 1911, LIV, p. 35).—P. Hertz alludes to the recent paper of Helmholtz (*vide BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, VII, p. 225), and records a personal case in a baby, aged 7 weeks, admitted to hospital for acute gastro-enteritis. Death took place one month after admission, one and a half days after profuse melæna. At the necropsy an oval ulcer 1½ cm. long and ¾ cm. broad was found in the first part of the duodenum. Microscopically the base of the ulcer was formed by the submucosa, which showed much fibrous thickening and diffuse round-celled infiltration.

J. D. ROLLESTON.

Case of congenital occlusion of the duodenum (accompanying a deficiency of the hind-gut), with a note on the ætiology (*Glasgow Med. Journ.*, 1910, II, p. 116).—Arnold H. Gray records a case of this comparatively rare affection and gives details of the conditions found post mortem. He analyses the records of nineteen cases. According to the anatomical character of the lesion in the duodenum the nineteen cases seem to divide themselves into three main groups. In the first group are three cases (including the author's) which present a type in which there is actual interruption of the continuity of the bowel. In these the upper portion of the duodenum forms a *cul-de-sac* completely separated from the remainder of the intestine. The second group is composed of twelve cases in which the obstructing lesion in the duodenum takes the form of a septum of mucous membrane, or mucous membrane plus muscular fibres, stretched transversely across the lumen of the gut, with the result that the portion of the bowel immediately above the obstruction is distended, while that below is collapsed and small. The third group comprises only four cases, and the lesion in these is of the nature of an annular constriction obliterating the lumen of the duodenum.

J. ALLAN.

A case of dextrocardia (*Med. Record*, 1910, I, p. 1095). G. Richter and C. H. Weinsberg. The patient was a girl, aged 14½ years, who until

the illness for which she came under observation had always been healthy, and had never been examined by a doctor. On November 3, 1909, she contracted influenza, followed by persistent pulse-rate of 120, and muscular pains ascribed to polymyositis universalis. On January 4, 1910, she became acutely ill, and examination of the chest revealed a condition of dextrocardia, the apex-beat being visible about half an inch to the right of and above the right nipple. The breast-sounds were normal. There was no transposition of the liver or other viscera, and no other malformation. Signs of fluid developed in the lower part of the right axilla, and a needle removed about four ounces of bloody serum. The sputum contained tubercle bacilli. Death occurred suddenly on January 7. The fact that the fluid occurred on the same side of the chest as the heart and did not displace to the other side, but tilted it upwards, seemed to indicate the existence of additional anomalies within the mediastinum. The condition of the heart was congenital. The terminal illness was apparently a relapse of the influenza, associated with acute tuberculosis. No autopsy was held.

FREDERICK LANGMEAD.

Persistent patency of the ductus arteriosus, stenosis of the isthmus of the aorta, with degeneration of the coronaries, of the cardiac muscle, and of the sinu-auricular bundle (*Med. Record.*, 1910, I, p. 1071, "Proc. Amer. Med. Assoc.")—**Kate C. Head**, who showed this specimen, said that the heart had been noticed to be defective first at the age of ten, when an attack of measles brought to notice the signs of mitral incompetence and aortic stenosis. The congenital lesion was overlooked for many years. The heart became further weakened by repeated attacks of influenza, and the patient died from rupture of the right auricle at the age of twenty-five. Out of 400 cases of congenital cardiac defects, Abbott found 106 cases of patency of the ductus arteriosus in combination with other cardiac abnormalities.

FREDERICK LANGMEAD.

Congenital disease of the heart (*La Pediatría*, 1910, XVIII, p. 493).—Those interested in this subject will find here an interesting contribution by **F. Visco**, with an extensive bibliography. Two cases are recorded at length, one with cyanosis, and the other without. The author says that the physician, when confronted with these cases of congenital disease, should not lose courage even in those which appear hopeless, and should spare neither time nor trouble in seeking to prevent death. If therapy is powerless on account of its limitations a large field is open for the study of prognosis, diagnosis, and prophylaxis, not only in theory, but in practice.

VINCENT DICKINSON.

Patent ductus arteriosus (*Univ. of Pennsylv. Med. Bull.*, 1910, XXIII, p. 509).—**Goodman** reports the case of an undersized boy, aged 14 years, with no cyanosis or polycythæmia. The heart was enlarged and the apex-beat forcible. In the second left interspace was a localised fine thrill, synchronous with systole, and in this area a loud rasping systolic murmur was heard, followed by an accentuated second sound. At the apex was a systolic murmur conducted into the axilla. A skiagram showed enlargement of the ventricles and a parasternal shadow on the left side between the second and fourth ribs. The account of the case is followed by an extensive survey of the literature of the subject.

T. R. WHIPHAM.

Heart-block as a result of primary tumour of the heart in a child aged 5 years (*Liverpool Med.-Chir. Journ.*, 1910, xxx, p. 327).—**H. Armstrong** describes this case up to that date. It is now completed to the day of the boy's death, and translated into German by **J. G. Mönckeberg** (*Dentsch. Arch. für klin. Med.*, 1911, cxi, p. 144), with a description by the latter of the heart on post-mortem examination. The case was first diagnosed as tuberculous meningitis, then as meningismus, and finally as Adams-Stokes' disease. Mönckeberg found a lymphangio-endothelioma of the atrio-ventricular node, and careful examination of the whole heart microscopically showed that the interruption of continuity between the auricle and ventricle was due to a total destruction of the auricular section of this node as well as of the auricular muscle, the anterior section being intact. The case seems to be unique in medical literature both on account of the age of the patient and the post-mortem findings. **F. R. B. ATKINSON.**

A new, constant and early sign of meningitis (*Gaz. des Hôp.*, No. 59, 1910. Abst. *Interstate Med. Journ.*).—**L'Hardy** draws attention to Signorelli's sign in meningitis. This consists of pain upon pressure over a point situated behind the jaw, below the ear and in front of the mastoid process. It is said to be present in all cases of meningitis, to appear early even before Kernig's sign or cervical rigidity, and to be one of the last manifestations to disappear. Some manifestation is present even when the patient is comatose, but it is most marked during the irritative stage.

T. R. WHIPHAM.

The importance of chemical examination of the cerebro-spinal fluid in the diagnosis of meningitis (*Ann. de Méd. et Chir. inf.*, 1910, p. 191).—**MM. L. Bousquet** and **M. Mestrezat** relate two cases which show the utility of a chemical analysis. The first was a girl, aged 28 years, who had severe headache, vomiting, obstinate constipation, delirium, restlessness, slight orbicular paralysis, and brisk reflexes. There was some thickening at the apex of the right lung. Tuberculosis of the meninges was diagnosed in spite of the absence of certain signs, such as Kernig's, and examination of the cerebro-spinal fluid seemed to confirm this, as lumbar puncture withdrew under marked tension a clear fluid containing a few lymphocytes. Chemical analysis, however, showed albumin .09, sugar .21, NaCl 7.24, dry extract 10.30, ash 8.35 per litre. A second puncture gave albumin .14, sugar .64, NaCl 7.52, dry extract 10.75, ash 8.75. These figures differ markedly from those obtained in tuberculous meningitis, which are—albumin 1 to 2, sugar .15 to .20, NaCl 5 to 6, dry extract 10 to 12, ash 8.20. The patient recovered completely. The second case was that of a boy, aged 4 years, who had for eight days presented signs which indicated meningitis—violent continuous headache, delirium, restlessness, vomiting, constipation, photophobia, vasomotor disturbances, and cardiac arrhythmia. The suddenness of the onset, with sore throat and nuchal rigidity, suggested a cerebro-spinal meningitis. Lumbar puncture was done and an intra-arachnoid injection of 3 c.c. electrargol given. But while the cytological examination showed the existence of an almost pure lymphocytosis which suggested a tuberculous meningitis, chemical analysis rather pointed to a cerebro-spinal meningitis: Albumin 6.50 per 1000, NaCl 6.59, dry extract 17.62. The solution of the problem was interesting. The first lumbar puncture produced a marked amelioration. A few minutes after, the headache, which had been agonising, disappeared, and the next day the child was playing in his bed and there was no longer

any nuchal rigidity or digestive disturbance. But ten days later recrudescence of the fever, headache and anorexia seemed to indicate a relapse. A fresh lumbar puncture and injection of electrargol were followed by a fresh success. Fifteen days later a third puncture was done under the same conditions. The issue of the case is not recorded.

VINCENT DICKINSON.

Typhoid meningitis ('*Med. Record*,' 1910, II, p. 760).—**Benjamin Schwartz** reports a case of acute meningitis due to *B. typhosus* in a boy, aged 8 years. The symptoms pointing to meningitis developed under observation, causing death within four days. Clinically the case resembled one of tuberculous meningitis, but both that condition and meningismus were excluded by an examination of the cerebro-spinal fluid. This was turbid, under great pressure, and free from any contaminating blood. In a smear preparation a large number of bacilli were found, which were proved by cultural and agglutination tests to be *B. typhosus*. The cells in the cerebro-spinal fluid were not accurately counted, but there appeared to be a relatively large number of small lymphocytes. No post-mortem examination was permitted. The author refers to the possibility of error in diagnosis where the cerebro-spinal fluid is contaminated with blood from which a growth of organisms might be obtained in the absence of meningitis. If, however, many organisms are found in a smear-preparation of recently withdrawn fluid, this precludes their being due only to contaminating blood. Short descriptions of other reported cases are given.

REGINALD MILLER.

Post-basis meningitis cured by intra-spinal injections of Dopter's serum ('*Journ. de Méd. de Bordeaux*,' 1910, XL, p. 513).—**Auché and Chevalier** record a case in an infant aged 23 months. The symptoms were well marked; the cerebro-spinal fluid was turbid and contained 76 per cent. of polynuclear leucocytes, and a pure culture of Weichselbaum's bacillus was obtained from it. Ten c.c. of Dopter's anti-meningococcal serum were injected into the spinal theca, followed by similar injections two days later, and again after a similar interval: as the child seemed to improve further doses were given every other day till 90 c.c. had been given. The turbidity of the cerebro-spinal fluid lessened and it finally became clear, the temperature lowered, and in three weeks the child was cured, all the symptoms having disappeared. After the eighth injection the cerebro-spinal fluid contained only cellular *débris*.

J. PORTER PARKINSON.

Coccidioidal meningitis ('*Journ. of Amer. Med. Assoc.*,' 1910, II, p. 1730).—**Ryfkogel** reports the case of a boy, aged 2 years, who had suffered from numerous subcutaneous abscesses and inflammation of the right ankle-joint. Both tuberculosis and syphilis had been suggested as a diagnosis. When seen he had twenty subcutaneous abscesses in various stages, and in the pus the characteristic round, double-contoured bodies of the fungus coccidioides were found. With treatment he remained free from abscesses for a time but later developed signs of meningitis. It was doubtful whether it was due to the fungus or to epidemic cerebro-spinal meningitis, and the results of lumbar puncture were inconclusive. Forty-five c.c. of Flexner's serum were injected without benefit, but after a subsequent injection the child became worse and died in thirty-four hours. Post mortem the lateral ventricles were dilated and a pinkish exudate was present over the base of the brain and medulla oblongata. Numerous

tubercles were seen, consisting of giant-cells, endothelioid cells and lymphocytes, with a marked tendency to fibrous tissue formation. Many of the giant-cells contained young forms of the fungus *coccidioides*, and cultures showed a typical growth of the organism. It seems probable that death was due to an anaphylactic reaction following the second injection of serum.

T. R. WHIPHAM.

Influenzal meningitis ('*Trans. Chicago Path. Soc.*,' 1910, '*Journ. of Amer. Med. Assoc.*,' October 29, 1910, p. 1560).—**Davis** records seven cases of this rare disease in children between the ages of five days and thirteen months. This form of meningitis occurs mostly in very young children, and might be confused with other forms unless studied carefully by bacteriological methods. It is a highly, and usually rapidly, fatal disease, the mortality being about 90 per cent. The author's cases occurred at a time when there was an epidemic of influenza. The symptoms present nothing unusual or peculiar. The cerebro-spinal fluid is turbid and contains many polymorphonuclear leucocytes as well as the characteristic bacilli, which are best stained with carbo-fuchsin. Cultivations are only successful on media containing blood or hæmoglobin. Post-mortem there is usually a rich purulent exudate at the base of the brain. It is believed that infection takes place by way of the nose. Only about forty cases have been recorded previously.

T. R. WHIPHAM.

Influenzal meningitis ('*Monatsschr. f. Kinderheilk.*,' 1911, ix, p. 549).—**G. Simon** has collected forty-one cases in which the diagnosis was confirmed by bacteriological examination, including two personal cases in children aged seven and eight months respectively. Twenty-seven occurred in the first year and six in the second. Thirty-seven were under ten years of age. The total mortality was 90 per cent. Thirty-one deaths (94 per cent.) occurred in the first two years, of which twenty-six (96·3 per cent.) were in the first year.

J. D. ROLLESTON.

Meningitis in mumps ('*Paris Méd.*,' 1910, i, p. 35).—**C. Dopter**, during five years' observation at the Val-de-Grace military hospital in Paris, has seen 158 cases of meningitis among 1705 patients suffering from mumps (9·8 per cent.). As a rule the meningeal symptoms are ill marked. Headache, bradycardia and mydriasis are often the only symptoms. Sometimes, however, severe and even fatal cases occur, of which Dopter records an example and quotes other cases in the literature. Examination of the cerebro-spinal fluid shows a lymphocytosis, which may be slight, but is often very marked. The meningitis may be complicated by hemiplegia and aphasia or palsies of the cranial and spinal nerves. The meningitis of mumps is distinguished from tuberculous meningitis by its sudden onset, and from epidemic cerebro-spinal meningitis by the character of the cerebro-spinal fluid.

J. D. ROLLESTON.

The incubation period of acute anterior poliomyelitis ('*Rev. of Neurol. and Psychiat.*,' 1911, ix, p. 10).—**D. W. Currie** and **Edwin Bramwell**.—The observations recorded and conclusions arrived at may be summarised as follows: *The Harrieston Epidemic*. The Home Farm of Harrieston is situated on the private estate of that name in the county of Clackmannanshire, two miles from the town of Tillicoultry (population, 3600). It lies at some distance from the public thoroughfare. The farmstead consists of four

houses, which may be conveniently designated A, B, C, and D. House A is occupied by the factor or land-steward, the three adjacent cottages by farm employees and their families. The A family consists of 2 children (A. A—, aged 5 years, and B. A—, aged $2\frac{1}{2}$ years). The B family consists of 4 children (A. B—, aged $7\frac{1}{2}$ years; B. B—, aged $5\frac{1}{2}$ years; C. B—, aged 4 years; and D. B—, aged 7 months). The C family consists of 4 children (all above 8 years of age). The D family consists of 2 children (aged 2 years and a few months respectively). Five of the children in these four houses were attacked (A. A—, B. A—, A. B—, B. B—, and D. B—). The children were taken ill in the following order: B. B— (September 12), A. B— (September 16), D. B— (September 18), B. A— (September 20), and A. A— (September 24). A. A— and A. B— were typical examples of the disease. The remaining three were undoubtedly abortive cases due to the same morbid process. A. B— and B. B— slept in the same bed, while on and after September 14 they slept in the same room as D. B—. A. A— and B. A— slept in one room. Mrs. A— visited the B—s' house on September 16 and again on the 18th and 19th, and on the two dates last mentioned she remained in the house for several hours assisting to nurse D. B—. The suggestion is, after considering the negative evidence, that Mrs. A— carried the infection. The authors offer no explanation to account for this local outbreak, although they remark that the disease has been more common in many parts of the country during the past autumn than for some years past. *Conclusions:* (1) The cases described are characteristic of the epidemic type of acute anterior poliomyelitis. (2) The facts recorded afford very suggestive evidence to the effect that the disease is contagious, and that the incubation period in the cases described was four days or less. (3) The instance here reported, although not conclusive, supports the view that the infection may be carried by a third person.

AUTHORS' ABSTRACT.

Report of Epidemiology Sub-Committee on the New York epidemic of 1907 (*Pediatrics*, Special Poliomyelitis Number, 1910, xxii, p. 512).—**Coulter**.—The 1907 epidemic of poliomyelitis centred in New York City, where some 2500 cases occurred: it spread rapidly along ordinary routes of travel, and appeared in Boston and other parts of Massachusetts. In New York City an unusual proportion of cases occurred on the east side of Manhattan Borough: the reason for this is not known. It was impossible to discover any susceptibility to the disease according to race: the very few (2 out of 750) cases among negroes is remarkable. An unusually large proportion of cases occurred in young children. In the city the epidemic began in June and reached its height in September: the onset of the country cases was generally somewhat later. The disease was moderately communicable. The path of infection could not be determined. The disease was distinctly less virulent in the New York epidemic than in other epidemics, as shown by low mortality and the small number of adults affected. Though the probable average incubation period cannot be defined it may be considered less than ten days.

J. E. BULLOCK.

An epidemic of infantile paralysis in Anjou (*Paris Méd.*, 1911, i, p. 484).—**Denéchau** and **Grosgeorge** report an epidemic of nine cases, observed in August, September, and October, 1910. The authors believe in the contagiousness of the disease either by direct contact, or by "germ carriers." The incubation period extended in two cases to twenty-two days,

the usual period being fifteen days. The disease followed cerebro-spinal meningitis in three cases.

F. R. B. ATKINSON.

Myositis ossificans ('*Med. Record*,' 1910, II, p. 646).—R. A. Elliot records a case in a girl, aged 17 years, who showed symptoms of the disease at two years. There was wide-spread involvement of the muscular system, resulting in many deformities and much restriction of movement. The general health had not been greatly affected. Congenital malformation of hands and feet existed, as in about 75 per cent. of the published cases. This is the hundred and second case recorded since the first case was discovered by Fuke in the 'Philosophical Transactions' of 1740.

J. D. ROLLESTON.

Myositis ossificans ('*Allg. Wien. med. Zeit.*,' 1910, LV, p. 363).—Péteri said the child had been two years under observation and was becoming progressively worse. The most diverse muscles were undergoing ossification. The muscles of the neck, especially the sterno-mastoid, the muscles of the thorax, chiefly the pectorals, and the back muscles had plates of ossification. Bony masses could be felt throughout the length of the biceps and brachialis anticus; in the abdomen the external oblique was strongly ossified.

M. D. EDER.

Progressive muscular dystrophy ('*St. Petersburg. med. Woch.*,' 1910, XXXV, p. 288).—Hörschelmann showed a child, aged 8 years; the gait was never normal, but only after the third year did the mother notice a gradual deterioration. All the trunk muscles were slightly atrophied, especially the back, chest, and shoulder muscles. The calf muscles were in part hard, in part doughy; the right calf was $27\frac{1}{2}$ cm., the left $26\frac{1}{2}$ cm. in circumference. The forearm muscles were normal. Knee-jerks absent, other reflexes and electric reactions normal.

M. D. EDER.

Surgery.

Congenital cystic lymphangioma of the neck in a child ('*Australasian Med. Gaz.*,' 1910, XXIX, p. 540).—T. Fiaschi records a case of this nature in a little girl, aged 5 years and 10 months. A swelling was first noticed on the right side of the neck when the child was five months old. The swelling was about the size of a pigeon's egg and remained so for two years, when it suddenly increased in size. An incision was made into it and a sanguineous fluid escaped. After being absent for a month the swelling began to form again, and after two years had reached considerable dimensions. The circumference of the neck was fourteen inches. The head was kept inclined towards the left, but all the movements of the head and neck were perfect. Consistence of swelling soft and fluctuating. No pulsation or expansion present. The cyst was carefully dissected out. On pathological examination the cyst wall was found to be a cystic lymphangioma lined with epithelium. The contained fluid was carefully analysed and was reported to exhibit the general characters of lymph.

J. ALLAN.

Ovarian tumour in a child ('*Zentralbl. f. Kinderheilk.*,' 1910, xv, p. 414).—Bonamy records a case in a girl, who had been healthy up to her third year. Since then she had from time to time attacks of vomiting which were attri-

buted to gastritis, and treated with restricted diet and rest in bed. When five years old she had an unusually severe attack with symptoms of intestinal obstruction. A tender immobile swelling, the size of a mandarine orange, was felt below the umbilicus. Intussusception was diagnosed. At the operation a pedunculated tumour was found springing from the broad ligament. The microscopical examination showed it to be a round-celled cysto-sarcoma. Five months after the operation there was no recurrence.

J. D. ROLLESTON.

Cases of intra-cranial tumour (*'St. Thomas's Hospital Reports,'* vol. xxxvii, 1908, p. 125).—**G. G. Butler.**—(1) Female, aged 8 years. Six months' history of headache, vomiting, and failing vision. Optic neuritis, nystagmus. Weakness of left side of face, left arm and leg. Exploration of cerebellum in two stages, but no tumour found. There was temporary improvement, however, except that vomiting continued. Continual drainage of cerebro-spinal fluid from wound: Post-mortem: Growth size of walnut beneath splenium of corpus callosum and adherent to left anterior corpus quadrigeminum, extending deeply into left hemisphere, and pressing on upper surface of cerebellum. Microscopically, glioma. (2) Female, aged 14 years. Fell down and was concussed three months ago. Subject to headaches and vomiting since. Difficulty in walking two months. Gait reeling, and tendency to fall to the right. Knee-jerks brisk and equal. Lateral nystagmus, optic neuritis. Objects picked up less easily with right hand. Exploration of cerebellum in two stages. Enucleation of tumour, size of walnut, from middle lobe extending into right lobe. Microscopically, spindle-celled sarcoma. Post-mortem: No meningitis. No other tumours found. (3) Male, aged 7 years. There was a history of seven months' headache and vomiting. Nystagmus to left; holds head to left. Dragging of right foot; gait very ataxic, especially in right leg. Coarse tremors in right arm. Calmette positive. Exploration of cerebellum and enucleation of tumour from right lobe. Microscopically, glioma. Post-mortem: Broncho-pneumonia.

JAMES E. H. SAWYER (Birmingham).

Gonorrhœa in an infant aged 5 months (*'Journ. de Méd. de Bordeaux,'* 1910, xl, p. 743).—**Petit de la Villéon** recorded a case with profuse urethral discharges, painful micturition, and balano-posthitis. It is probable that the mother, who was suffering from urethral discharge and cystitis, had infected her child by digital contact. Bacteriological examination was negative, but had not been made until ten days after treatment had been started.

J. D. ROLLESTON.

Gonococcus urethritis in male children (*'Med. Record,'* 1910, II, p. 766).—**Wolbarst** states that gonorrhœa in male children, though less common than in female children, is by no means rare, and especially occurs among the poor of large cities. Infection is often due to precocious sexual development, but some cases are infected by sexual perverts, and others are due to accidental contamination. The majority of cases occur in boys from four to ten years of age. Gonorrhœal infection in boys is liable to all the complications which occur in the adult. It is possible that many cases of sterility, sexual neurasthenia, and urethral stricture are due to gonorrhœal infection in childhood. Treatment is practically the same as in the adult, but circumcision is often advisable to prevent preputial accumulation of discharge.

The author recommends urethral injections of protargol $\frac{1}{4}$ per cent. or argyrol 1 per cent., administered twice daily and retained for five to ten minutes.

C. F. MARSHALL.

Gonorrhœal arthritis in a child (*Journ. of Amer. Med. Assoc.*, 1910, II, p. 498).—**Lydston** reports the case of an infant, aged 3 weeks, whose eyes had become infected with gonorrhœa at birth. On the fourteenth day the left wrist was swollen, painful, and slightly reddened. Three days later the right knee was similarly affected. The immunity of infants from rheumatism, the typical appearance of the joint, and a moderate temperature of 100° F. to 101° F., together with the clear history of infection, serve to establish the diagnosis. Anti-gonococcal serum was administered hypodermically in 3-minim doses, increasing to 15 minims every other day, and a local anodyne was applied. The reaction was slight and the improvement prompt.

T. R. WHIPHAM.

Appendicitis in childhood (*Journ. of Amer. Med. Assoc.*, 1910, II, p. 2198).—**Deaver** reviews a series of 500 cases in which he has operated. Appendicitis in childhood is characterised by an insidious onset, rapid progress, and obscure symptoms. The earliest case reported occurred in a premature infant, aged 24 days, while the author's youngest was aged 21 months. As to sex, males predominate in the proportion of nearly 2 to 1. Predisposing causes are: (1) Infectious diseases, such as enteric fever, scarlatina, influenza, mumps, whooping-cough, and chickenpox, also probably intestinal catarrh; (2) dental caries; (3) mechanical irritation from concretions, foreign bodies, worms, and possibly errors in diet. The exciting cause is bacterial, and usually the *B. coli communis*. The symptoms in infants are scanty, and the severest type may exist without one of the classical symptoms. In older children, however, the symptoms are sudden and severe. As regards diagnosis the author propounds the epigram—"All cases of abdominal trouble in children are appendicitis until proved otherwise." In infants, owing to the deep situation of the appendix in the pelvis, bladder or urinary symptoms may predominate. The prognosis of acute appendicitis is favourable if the case is operated upon early "before the storm breaks, and while the noon-day quiet holds the hill." In cases in which there is a localised abscess with diffuse peritonitis, moderately high temperature and rapid pulse, and a low leucocyte count with a large percentage of polymorphonuclears, it is best to defer operation. In twenty of the author's cases he waited from two to twelve days before operating so as to allow adhesions to form. After operation intestinal obstruction and secondary abscess must be carefully watched for.

T. R. WHIPHAM.

Intussusception of the vermiform appendix (*Med. Rec.*, New York, 1910, II, p. 1087).—**A. V. Moschowitz** reports a case of intussusception of the appendix in a boy, aged 4½ years, which was successfully operated upon. He has collected twenty-four recorded cases, and gives the following analysis: Out of the twenty-five cases twenty were reported by British or American authors. Eighteen cases occurred in the first decade of life with an average age of five years. Pain is intense, localised round the umbilicus and characteristically remitting; between the attacks the patient feels well. The symptoms continue for weeks or months, and there is an interval of several weeks as a rule between the primary invagination of the appendix and the urgent complication of an intestinal intussusception. A

tumour may be felt. The bowels usually continue to act, and blood may be present in small quantities after the acute attacks.

H. D. ROLLESTON.

Intussusception complicated by appendicitis (*Journ. Roy. Army Med. Corps*, 1911, xvi, p. 307).—**Major G. J. Stoney Archer**.—A male infant, aged 8 months, presented symptoms of acute intussusception. Laparotomy was performed, and the intussusception reduced. The walls of the cæcum were much thickened; the distal portion of the appendix was swollen and of a dark red colour, and presented a marked constriction about one inch from the hip. The appendix was removed, and on being opened showed a congested and ecchymotic mucous membrane, with a small ulcer about an eighth of an inch in diameter. Recovery took place. The writer regards the appendicitis as the cause of the intussusception.

J. D. ROLLESTON.

Ileo-colic intussusception with resection of twenty-two inches of gangrenous gut (*Med. Record*, 1911, i, p. 605).—**W. S. Schley** showed the patient, a girl, aged 6 years, on whom the above operation had been performed. Marked sepsis developed after the operation, but the patient gradually recovered perfect health.

F. R. B. ATKINSON.

Hirschsprung's disease (*Nord. med. Ark.*, 1910, Afd. II, Nr. 8, p. 26).—**J. Schou** records a case in a boy who, until he was fourteen years of age, could not defæcate without laxatives or enemata. He then had an attack of intestinal obstruction for which colopexy was performed. Improvement followed, although he still frequently required drugs and enemata to open his bowels. Four months later he had another attack. At the second operation enormous dilatation of the sigmoid, descending colon and part of the transverse colon was found. Resection of the whole of the dilated gut was performed. The boy has since been in good health. He now has a daily motion spontaneously and the girth of his abdomen is normal.

J. D. ROLLESTON.

A case of megacolon congenitum (*Zentralbl. f. Kinderheilk.*, 1911, xvi, p. 80).—**S. Fritz** records a case in a boy, aged 8 years, who since birth had had an enormous belly and suffered from constipation and lately had had repeated vomiting. The circumference of the abdomen at the level of the umbilicus was 72 cm., and at xiphisternum 97 cm. Systematic intestinal lavage produced temporary improvement, but six months later he had a sudden attack of violent abdominal pain accompanied by vomiting, meteorism, and cardiac depression. The whole of the large intestine, which was found to be much dilated, was removed. Death occurred three days after the operation. At the necropsy fibrino-purulent peritonitis and a subhepatic abscess were found.

J. D. ROLLESTON.

The operative treatment of congenital atresia of the last portion of the intestine (*Riv. di Clin. Pediat.*, 1910, vii, p. 989).—**G. Razzaboni** relates a case of imperforate anus. He considers that in such cases the operation of election is by the perinæal route whenever the blind end of the intestine is within easy reach, as can be demonstrated by radioscopy. In other cases, however, laparotomy is preferable, since it allows the gut to be freed satisfactorily without risk of hæmorrhage.

VINCENT DICKINSON.

Dermatology and Syphilis.

Cutaneous diphtheria (*Boston Med. and Surg. Journ.*, 1910, II, p. 730).—**E. H. Place**.—During the past three years cutaneous diphtheria has been seen in the south department of the Boston City Hospital in the following conditions: (1) Like impetigo contagiosa on the hands and face; (2) on the auricle, chiefly the concha, extending from the middle ear, and behind the auricle, inoculated upon eczematous lesions; (3) inoculated upon lupus vulgaris on the face after curettage; (4) in wounds and abscesses on the neck and face; (5) inoculated upon varicella lesions, most commonly in the vulva or in the vagina. The present case is that of a girl, aged 7 months, breast fed, who had suffered from birth from eczema of the pubis, groins, and thighs. On admission to hospital greyish membrane covered the lower third of the abdomen, vulva, perinæum, anterior parts of the buttocks, and upper quarter of the internal surface of the thighs. Examination of the mouth, nose and throat was negative. There was marked prostration. Cultures from the skin showed virulent diphtheria bacilli, but cultures of the nose and throat, both of child and mother, were negative. Twelve thousand units of antitoxin were given. On the third day after admission the membrane was clearing rapidly, but the general condition became worse and death took place. The necropsy showed hyperplasia of the lymphoid tissue, "septic spleen," commencing broncho-pneumonia in both lungs, and pus in the middle ear. The source of infection could not be discovered.

J. D. ROLLESTON.

Cutaneous diphtheria (*Bristol Med.-Chir. Journ.*, 1910, XXVIII, p. 231).—**W. Kenneth Wills**.—A boy, aged 6 years, who had had a sore throat in December, 1909, developed in the following February a copious vesiculopustular eruption on the back, chest, and abdomen, with a few scattered lesions on the face and limbs. Shallow ulcers were found on the lips and soft palate. There was conjunctivitis of both eyes. The temperature was of a septic type, and there was profound toxæmia. Organisms morphologically resembling Klebs-Loeffler bacilli were obtained in cultures from the nose, eye, and skin lesions. Rapid improvement followed the injection of diphtheria antitoxin.

J. D. ROLLESTON.

The significance of tuberculides in the diagnosis of tuberculosis in infancy (*Journ. of Amer. Med. Assoc.*, 1910, II, p. 1721).—**Leopold and Rosentern** report twelve cases of tuberculides in infants, the majority of whom were either tuberculous or had a history or some symptom suggestive of the disease. In four there were no other signs or symptoms of tuberculosis, but in all the von Pirquet reaction was positive. The authors conclude that papulo-squamous and papulo-necrotic tuberculides are present in a large percentage (40 per cent. in their series) of cases of tuberculosis in infancy. The lesions may appear on any part of the skin, but the seats of selection are the arms, the lower part of the back, and especially the extensor surface of the lower extremities. At times the tuberculides are the only evidence of tuberculosis present, and they are, therefore, of great diagnostic value.

T. R. WHIPHAM.

Herpes zoster in an infant (*Lyon. Méd.*, 1910, CXV, p. 810).—**Planchu and Rendu** record a case of typical herpes zoster in a premature but healthy infant, aged 2½ months. The distribution of the eruption was

in the third and fourth right intercostal spaces. It was not attended by rise of temperature and rapidly healed. Zoster is extremely rare in infancy as Galka has recently shown (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, p. 277). J. D. ROLLESTON.

Contagiousness of infantile herpes ('*Paris Méd.*' 1910, I, 102).—**R. Cruchet** believes with many others in the epidemicity and contagiousness of herpes. In the space of one month (September to October) he met with five cases of this complaint in children ranging from eighteen months (femoral), to four years (intercostal), ten years (femoral), and eleven and twelve years (intercostal). In four of these cases real contagion could not be proved, but in the fifth, a child, aged 18 months, it was more than likely. A child, aged 4 years, was admitted to the hospital suffering from well-marked intercostal herpes, and three days afterwards the baby was admitted to the adjoining bed for slight bronchitis. Three days after admission well-marked femoral herpes showed itself. As is the rule in children, there were no general phenomena nor any pain connected with the complaint. The author notes the rarity of the disease in children. F. R. B. ATKINSON.

Herpes facialis in scarlet fever ('*Brit. Journ. Derm.*' 1910, XXII, p. 309).—**J. D. Rolleston** in 413 cases of scarlet fever noted herpes facialis in 27 patients, or 6·5 per cent., a figure slightly exceeding that which he had found in diphtheria (4·2 per cent. among 1370 cases). In 23 cases the lips alone were affected, in 2 the nostrils as well, in 1 the right cheek only, and in 1 the nostrils and the right cheek. The facial herpes of scarlet fever, like that of diphtheria, showed no predilection for young children, but was found at all ages except early infancy. The youngest case was three years old, although 24 of the 413 were below that age. As in diphtheria, the eruption was essentially a phenomenon of the acute stage. In all but five it occurred within the first week. One case of herpes progenitalis was noted in a girl, aged 5 years, in association with a vaginal discharge, but no instance of herpes zoster was met with. The eruption was more frequent in the severe than in the mild cases, occurring in 12·6 per cent. of the former as compared with 4·2 per cent. of the latter.

AUTHOR'S ABSTRACT.

Epidemic diseases of the hair ('*St. Petersburg. med. Wochens.*' 1910, XXXV, p. 425).—**Hirschberg** deals in detail with the pathology, ætiology, diagnosis, and treatment of microsporic and megalosporic ringworm and favus. He has employed the X rays in 129 cases. Forty-nine have been completely cured without any recurrence, in 47 there was a recurrence of the disease. In 9 cases of favus there was permanent loss of hair. In 1 case the X rays seemed to be of some service in favus of the nails, but in most of these cases it was without effect. The after-treatment of the favus cases by iodine, pyrogal, washings, etc., must be most carefully carried out, as there is danger of permanent baldness. M. D. EDER.

The occurrence of favus in London elementary schools and its recent treatment ('*School Hygiene*,' 1910, I, p. 697).—**J. F. Halls Da ly** records his experience in connection with the treatment of favus in a special school in London. The earlier cases were treated with ointment and lotions and the later ones by means of the X rays. So successful was

the experiment that in the early summer of last year the school was closed, having then accomplished its work. With one exception all the children who came under treatment were aliens. The following method of treatment was found to give the best results: On the day previous to the application of the X rays the hair was cut quite short with clippers, which were then sterilised, and the child's head was washed with soft soap. If many crusts or much suppuration were present further cleansing was effected by applying cyllin poultices. X rays were then applied after Kienbock's method. Protection for the nurse and operator was attained by the use of a suitable shield. Eighteen days later the head was washed, by which time the hair had begun to fall out. A cyllin poultice was applied daily for the next three days, the head being washed every day subsequently for seven to ten days. By this time the scalp should present a billiard-ball appearance, and if there should be a few stumps yet remaining, these were picked out individually with epilation forceps. Unless contra-indicated, a solution of izol or cyllin was painted on once weekly or an anti-parasitic ointment applied "to make assurance doubly sure." A new growth of hair appeared in about nine weeks' time, and by the end of three months was often half an inch in length.

J. ALLAN.

Mongolian blue spots (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, 1911, xxxi, p. 49).—**J. Comby** and **G. Schreiber** record a case in a male infant, aged 5 months, whose father was a Parisian and mother a native of Loire-et-Cher. Since birth the child had had a lozenge-shaped patch in the internatal cleft. It was of a slate-blue colour, did not project above the skin, and was not covered with hair. These spots are rare in white races, being found among Europeans in only 2 per 1000.

J. D. ROLLESTON.

A case of Mongolian blue patches (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, 1910, xxx, p. 677).—**A. Fruhinholz**, of Nancy, recorded a case in a girl, aged 3 months, a firstborn, who had two dark blue spots in the internatal cleft the size of a two-franc piece. They had been present at birth. The mother was a native of Alsace, and had a fair complexion; the father was a native of Burgundy, and had very dark skin and dark hair. In the subsequent discussion **Apert** stated that this was the seventh case which had been published in France. Many had occurred in Jewish children, who probably had a special predisposition thereto, similar to that which they presented to amaurotic family idiocy (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, vii, p. 520).

J. D. ROLLESTON.

Sites of syphilitic chancres in children (*Ann. de Mal. Vénér.*, 1910, v, p. 262).—**Gaucher** and **Flurin**.—Twenty-three cases of chancres in children under fifteen years of age occurred in Prof. Gaucher's service at the Hôpital St. Louis in the period 1902-1910. In 6 cases the lips were affected, in 3 the eyes (lids and caruncle), in 2 the scalp, in 1 the breast, in 1 the groin, in 1 the anus, and in 9 the genitals. The perigenital region was more frequently affected than the genitals themselves.

J. D. ROLLESTON.

Immunity in syphilis; reinfection and superinfection (*Thèses de Paris*, 1909-1910, No. 385).—**Pinard**.—In the part of this thesis dealing with hereditary syphilis the author adopts Gaucher and Rostaïne's classification

of the children of syphilitic parents into four groups: (1) Those who are absolutely healthy; (2) the dystrophic (quaternary and quinary); (3) tertiary (late heredo-syphilis); (4) secondary, or early heredo-syphilitics. The two first groups contract acquired syphilis frequently: the third group may also contract it, but more rarely; the fourth group (in which lesions of hereditary syphilis are present at birth), according to Pinard, may also contract acquired syphilis, although rarely. Pinard thinks there are many exceptions to Colles's law, and that a woman can give birth to syphilitic infants while remaining healthy herself. In other words, he considers that paternal syphilis may be transmitted to the child without infecting the mother.

C. F. MARSHALL.

Persistent crying in inherited syphilis (*Arch. de Méd. des Enf.*, 1910, XIII, p. 580).—**G. Sisto** records eight illustrative cases in addition to five recently published by Comby (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, XIII, p. 266). He attributes the symptom to pain localised in the epiphysal regions, disease of which can be shown by the X rays. The cries are sometimes the only symptom, but in most cases they are associated with other evidence of inherited syphilis. Specific treatment stops the crying, and this favourable result is often immediate.

J. D. ROLLESTON.

The pituitary gland in inherited syphilis (*Bull. de la Soc. franç. de Derm.*, 1910, XXI, p. 198).—**A. Paris** and **G. Sabaréanu** examined the pituitary gland in seven heredo-syphilitics born dead or who died shortly after birth. Three in whom death took place in the fifth, sixth, and eighth months respectively, of intra-uterine existence, showed numerous spirochætes in the anterior lobe of the pituitary gland, but none in the nervous lobe. The spirochætes were also found in these three cases in the liver, spleen, kidney, and suprarenals. In the other four cases examination of the other organs was also negative, except in one case in which both liver and spleen contained spirochætes. The writers conclude that the localisation of the *Spirochaeta pallida* in the pituitary gland indicates a simultaneous infection of most of the other organs.

J. D. ROLLESTON.

Syphilis and congenital mental deficiency (*Glasgow Med. Journ.*, 1910, II, p. 342).—**Ivy McKenzie**, on the strength of the Wassermann reaction, concludes that syphilis plays a larger part in congenital mental affection than is generally supposed. A positive reaction may be obtained in children who have congenital mental diseases but show no other signs of syphilis. Also children of syphilitic parents may give a positive reaction, although they may present no symptoms or signs of congenital syphilis. The part played by syphilis in cases where the nervous disturbance is purely psychological can only be determined by the biological test. How far syphilis is responsible for mental enfeeblement and retarded development without obvious mental disease is a problem which can only be solved by application of the biological test to parents and to families of recognised syphilitics.

C. F. MARSHALL.

Mental deficiency in Denmark and Wassermann's reaction (*Hospitalstidende*, 1911, LIV, p. 169).—**O. Thomsen**, **H. Boas**, **B. Hjorth** and **W. Leschly**.—Among 2061 cases of mental deficiency only thirty-one, or 1·5 per cent. gave a positive Wassermann's reaction. Of these five had

undoubtedly had acquired syphilis, but in them the infection was so recent that the mental deficiency could not be attributed to syphilis alone. In the other twenty-six the disease was either congenital or had been acquired at a very early age. The most positive reaction was obtained in patients between the ages of five and ten years. Six cases gave a negative reaction, but had either clinical evidence or a definite history of congenital syphilis. The writers conclude that the serum test does not justify the opinion that syphilis plays any important part in the production of mental deficiency in Denmark.

J. D. ROLLESTON.

Treatment.

Congenital hypertrophic stenosis of the pylorus, with special reference to its treatment (*Practitioner*, 1910, II, p. 659).—**James H. Nicoll** gives a short paper on this subject based on the results of treatment of nine cases which have come under his care during the past six months. He thinks two degrees of pyloric obstruction in infants can be recognised, viz. minor (spasm?), to be treated by dieting, and major (hypertrophy?), for which early operation alone is curative. With regard to dieting each case requires to be considered individually. The diet generally prescribed by the author consists of a very thin paste made by mixing with milk flour which had been baked. Two axioms based on his experience are laid down: (1) Frequent changes are necessary: if a particular food does not "stay down" after a three days' trial, it should be abandoned for another; (2) if after three weeks' dieting, even in cases of apparently minor degree, vomiting still persists, dietetic treatment should be abandoned, and operation undertaken while strength remains for the ordeal. It is pointed out that the undeservedly high reputation of dietetic measures rests on three fallacies: (a) erroneous diagnosis; (b) temporary improvement; (c) an exaggerated impression of the mortality attending operative treatment. Successful operative treatment depends on: (1) a skilled operator, a surgeon who can operate quickly and who has acquired delicacy of touch in manipulating the fragile structures; (2) a physician or family medical adviser, who is fully alive to the benefits of surgical treatment and who advises early operation in suitable cases; (3) a nurse who knows something of the care of infants and who is prepared to nurse the child "maternally" as well as "surgically." In concluding the author briefly enumerates the surgical procedures of which he has had experience.

J. ALLAN.

Treatment of acute anterior poliomyelitis (*Journ. Amer. Med. Assoc.*, 1910, II, p. 1804).—**Skooq**, in dealing with the treatment of the prodromal and acute stages of this disease, recommends rest as essential. It is possible that if absolute rest could be obtained for a few days before the paralysis is due many cases would abort without it. Lumbar puncture is of value in cases of meningeal infiltration, and particularly when there is an increased amount of cerebro-spinal fluid. Hexamethylenamin (urotropin) may be used in these cases, formaldehyde being present in the cerebro-spinal fluid thirty minutes after its administration. The author gives 12 to 24 grm. to a child two to four years of age every hour for three doses, and repeats the same daily as long as acute symptoms persist. In cases with much pain and hypersensitiveness, the salicylates, preferably sodium salicylate or aspirin, afford relief, and a heavy cotton-wool dressing to the affected extremity is also useful. Isolation of the patient should

be insisted upon, and all articles used by the patient as well as the excreta should be disinfected.

T. R. WHIPHAM.

The value of "606" in children's diseases (*Zent. f. Kinderheilk.*, 1911, xvi, p. 1).—**E. Schreiber** finds that injection of syphilitic mothers four weeks at least before parturition is followed by good results as far as the child is concerned. In twelve pregnant syphilitic women, of whom six had given birth at the time of writing, there were no traces of syphilis in the children. The author uses intra-muscular injections into the glutei, dividing the injection into three parts which equal 0.01. In feeble sucklings he begins with 8 mgrm., in stronger children 1 cgrm., and increases the dose after fourteen days and has had good results. In older children he uses the remedy intra-venously. The author has not found "606" used with discretion and in proper doses any more dangerous than mercury. He thinks that perhaps a combination of treatment with mercury and "606" would achieve the most lasting results.

F. R. B. ATKINSON.

Comparative value of mercury and "606" in congenital syphilis (*Med. Record*, 1911, i, p. 85).—**J. W. Brannan**, at a meeting of the Practitioners' Society of New York, mentioned cases of congenital syphilis which he observed at the Charité Hospital, Berlin, half of which were under mercurial treatment, and the other half under treatment by "606." The former series were said to be doing much better than the latter.

C. F. MARSHALL.

Gonococcus vulvo-vaginitis in children, with results of the vaccine-therapy in out-patients (*Medical Record*, 1910, i, p. 769).—**Hamilton** reports the results of treatment of 344 cases of vulvo-vaginitis in children, averaging five years in age. Of these, 260 were treated by irrigation, 158 being cured, 53 not cured, and 49 lost. Vaccine treatment was given in 84 cases, 76 being cured, 5 not cured, and 3 lost. The average time of treatment by irrigation was 10 months, by vaccines 1.7 months. Three cures were obtained in infants under a year old, the youngest being three weeks. From these results Hamilton concludes that the vaccine treatment of vulvo-vaginitis is indicated for the following reasons: (1) The short duration of the treatment required in over 85 per cent. of the cases; (2) the ease of administration; (3) the absence of harmful results when aseptic precautions are taken. He considers estimation of the opsonic index unnecessary.

C. F. MARSHALL.

Reviews.

Feeble-mindedness in children of school age. By C. P. LAPAGE, M.D., M.R.C.P., Physician to the Manchester Children's Hospital, etc. With an appendix on Treatment and Training by MARY DENDY, M.A. Manchester: Sherratt and Hughes, 1911. Price 5s. net.

THE object of this book is threefold: to provide a volume suitable for school medical officers and teachers dealing with feeble-minded children; to emphasise the importance of mental deficiency; and to draw attention to

the facts that it is hereditary and transmissible. We consider these objects have been achieved. The book is a clear and accurate short account of the characteristics of feeble-minded children, which cannot fail to be of service to those for whom it is intended. The directions for the general management of these children are sound, the short chapters on causation are critical and clear, and adequate attention is drawn to the incurability of the condition and the need for life-long supervision. There is a useful glossary, a list of homes and institutions, and a bibliography of all the recent textbooks and literature on the subject. The appendix contributed by Miss Dendy is, as we should expect, clear and practical, and is a valuable addition to the book. The only feature we do not like is the popular account of the infectious and contagious diseases. This is too meagre to be of any service to the school medical officer, who, as a matter of fact, would hardly turn to a book dealing with feeble-minded children for information on these subjects, whilst there is the likelihood that it may supply the teacher and layman with that little knowledge which is a dangerous thing. Apart from this, however, the book is excellent.

A. F. T.

GOLDEN RULES FOR DISEASES OF CHILDREN. BY GEORGE CARPENTER, M.D. Fourth edition, revised and partly re-written by E. BELLINGHAM SMITH, M.D. Bristol: John Wright and Sons. Pp. 124. Price 1s.

THE fourth edition of this little book has been revised and partly re-written. It is a compendium of useful hints on both diagnosis and treatment, founded mainly on the experience of the original author. While not professing to be more than a book of rules, it contains much sound information in a small compass, and will repay perusal by those who are not thoroughly conversant with the diseases of children. The amount of ground it covers is considerable, and all the important ailments of childhood are touched upon.

T. R. W.

MEMORIAS DO INSTITUTO OSWALDO CRUZ. Tomo 11. Fasciculo 1. Rio de Janeiro, 1910.

THESE transactions are published in Portuguese and some foreign language in parallel columns. In the present volume the foreign language is German for eight of the papers, English and French having each one paper.

Dr. Hartmann describes a new intestinal amœba (with plates) which he found in the large intestine of an imported European land tortoise. Dr. A. Godoy has obtained a new vaccine against anthrax from the dried muscle juice obtained from naturally infected cattle in Minas. He gives the results obtained from the inoculation of cattle on a large farm, and considers that his process should replace the empirical methods still in use. Dr. Gomes de Faria describes and figures a new trematode—*Dicrocoelium infidum*; Dr. Araújo, a new flagellate (*Polytomella agilis*), Dr. Lutz has some short notes on various diptera of Brazil, Dr. Hartmann and Dr. Chagas an important paper on flagellata, including a complete classification and a bibliography with several plates. Dr. Godoy has a short paper on the quantitative formation of spores and its relation to temperature. The most important conclusion of Dr. Neiva's experiments on the formation of a quinine-resistant race of malaria parasites is that human beings in malarial districts must frequently increase the dosage of quinine and must continue the drug when

they return to malaria-free countries, otherwise they may there have their first attack of ague.

M. D. E.

MEMORIAS DO INSTITUTO OSWALDO CRUZ. Tomo II, Fasciculo II.
Rio de Janeiro, 1910.

THESE memoirs are devoted to the subject of biology, and appear at least once a year in the shape of a tome of 200 pages. The articles are written in Portuguese with a German translation side by side, and there is one article in English. Save for one on tuberculosis all the articles are biological, and are only of interest to those who study biology. There are some good plates.

F. R. B. A.

FLAME AND FLANNELETTE. By ROBERT J. PARR, National Society for Prevention of Cruelty to Children. Pp. 88. Price 3d.

Mr. ROBERT J. PARR, Director of the National Society for the Prevention of Cruelty to Children, is to be congratulated on the production of this interesting booklet. He tells us that 1400 children are burnt to death annually—a death-roll due in part to parental carelessness, in part to the extraordinary fascination exercised by fires and matches on the child mind. He instances several very dangerous practices, such as removing burning coals from the grate to the common yard in order that the fireplace may be cleaned, pouring oil on a dying fire, and producing an upward draught by newspaper. It is urged that children should never be left alone with matches, that the sale of match-boxes adorned with illustrations from well-known nursery rhymes should be prohibited, that the "Non Flam" material invented by Dr. Perkin, Professor of Organic Chemistry in Victoria University, and manufactured by Messrs. Whipp Bros. and Todd, of Manchester, should take the place of the cheap but dangerous flannelette. Since flannelette was introduced there has been an increase in deaths from burning of over 62 per cent. for all ages under five, while not a single fatality has been reported among those wearing the "Non Flam" garment.

C. R.

THREE PAMPHLETS ON MILK SUPPLY. Price 2s. per 100, 17s. 6d. per 1000 copies.

THE National League for Physical Education and Improvement have issued three leaflets on how to get clean milk and how to keep it so. They are addressed to farmers, retailers, and housewives. The first of these leaflets is the most detailed, and rightly so, for the farmer has the best and first chance of fouling the milk, and in the majority of instances makes the most of his opportunities. The leaflet begins with the care of the cow, and lays great emphasis on cleaning the udder and teats, but unfortunately makes no sufficiently definite remarks upon grooming and cleaning round the tail region. The rules for milkers and the hygienic care of the cowshed are excellent, and it is pleasing to note that the washing of the milker's hands is made part of the daily routine of every well-organised dairy.

The leaflet to housewives contains valuable advice on the cleaning of milk-vessels, the danger of flies, and the consequent necessity of the frequent emptying of ash-pits and pail-closets. It is to be hoped that medical officers of health, school doctors and health missionaries will distribute these pamphlets widely to the ignorant and filthy of these islands.

C. R.

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ATELEIOSIS: PROGERIA.

By HASTINGS GILFORD, F.R.C.S.

THE word "infantilism," for which we are indebted to the French, is gradually finding its way into our text-books, and seems now to be accepted as part of our medical nomenclature. Such being the case the word "senilism," as applied to the opposite disorder of regressive development, becomes inevitable. It is obvious that we cannot continue to use the descriptive phrase, "morbid acceleration of regressive development" any more than we can encumber our writing with the phrase, "morbid delay of progressive development," when such words as "senilism" and "infantilism" are available. I feel, therefore, that I need make no apology for the use of the word "senilism" as well as of "infantilism" in my account of the two disorders which form the subject of my paper.

ATELEIOSIS.

Generally speaking, infantilism is the outcome of some prior morbid condition. It results, as a rule, from intoxication with the poisons of enteric, rheumatic, or other fever; or is brought about by defective action of the pancreas or of the thyroid gland. Infantilism

so produced is not of extreme degree, presents no characteristic disposition of the physiognomy or of bodily proportions, is never transmitted, and is seldom associated with sterility.

But as a rare event infantilism may crop up without perceptible cause, constituting essential infantilism, of which disorder ateleiosis is the most important variety. Though a well-marked entity, ateleiosis varies with the age of onset. It may set in at any age of progressive development, and, generally speaking its characters are those peculiar to the time of life at which it begins. Hence it is most easily to be recognised when it starts in babyhood or early childhood. The comparatively large head, long body, short limbs, and undeveloped facial characters, together with the good, though perhaps somewhat childish intelligence, sharply define ateleiosis from all other disorders. It seems never to lead to actual *arrest* of development. Growth becomes seriously retarded, so that in one case (1) it was found that the increase in length and in weight, which ought to have been accomplished in five years, was spread over a term of thirty-five years. The changes which take place largely depend upon whether the reproductive organs develop or do not develop. Of so much importance is this sex factor that it leads to a natural division into the sexual and the asexual forms. Generally speaking, sexual development is delayed so that puberty is postponed for some years, but occasionally the organs of sex remain infantile throughout life. In this latter event the infantilism is of extreme degree, so that, save for slow increase in height and in weight, and for the appearance of the superficial markings of age, the infantile resemblance remains almost unchanged. Perhaps the first to draw attention to these infantile characters was Lavater, who, in his 'Essays on Physiognomy,' gives a picture of the head and bust of a girl apparently of this type, and alludes to her as follows: "I subjoin the profile of a girl of sixteen whose stature scarcely exceeded two feet. Her physiognomy suggests absolutely no other idea but that of a *consolidated infancy*. The forehead bent forward indicates the physical imperfections of the first stage of human life, and the hollow inflection of the root of the nose is the infallible sign of mental weakness or want of vigour. . . . This dwarf, however, did not want sense, or rather she could prattle, and had a retentive memory."

In those cases in which the sex organs mature (sexual ateleiosis) the physiognomy undergoes more conspicuous alteration with increasing age; the prominent nose and other features of old age are apt to be superimposed upon those of infantilism, and the appearance of

sexual hair may cause a still wider divergence from the infantile type. Moreover, the duration of life may continue to its normal

FIG. 1.



limits, or even be protracted almost to centenarianism (2). Hence, all that may ultimately be left of the original infantilism may be a conspicuous shortness of the body, a large head, and other childish proportions of the body and limbs.

There is reason to believe that the origin of ateleiosis is to be explained on the ground that it is a discontinuous variation or muta-

tion, its spontaneous appearance, its pronounced individuality, and its occasional heredity being greatly in favour of this view.

Ordinary symptomatic infantilism, on the other hand, is in all probability a continuous variation or fluctuation, seeing that it appears in response to a favourable environment, is of minor degree, and, like all acquired characters, is not heritable.

The characters of asexual ateleiosis are well shown in the figure. In this case the shorter boy is affected with this form of infantilism. He is of the age of twelve, and standing beside him is his normal brother of six years. It will be noticed that his rounded contours, height, proportions, and physiognomy are all eminently childish. No cause whatever can be found for his condition, for, with the exception of some trifling childish ailments, he has enjoyed good health all his life. He is the only abnormal member of a family of eight, and the delay of development is said to have started when he was about two years of age. He is now of the height and weight usual at four. He shows no sign of cretinism or of rickets. His epiphysial ossification is about one year behind that of his brother of six; dentition is backward, and the teeth are crowded. He is a bilateral cryptorchid. He is of good intelligence, and two years after this portrait was taken acted the leading part in a play at one of the London theatres. According to the critics, he carried out his double *rôle* of baby-in-arms and of man-about-town intelligently and with spirit, acting equally well in both capacities.

PROGERIA.

Senilism, like infantilism, is of two kinds—symptomatic and essential. Symptomatic senilism is induced by intoxication with disease organisms, such as those of enteric fever and of syphilis, and with alcohol, gout, and lead. Senilism, in short, is brought about by much the same causes as those which give rise to infantilism.

Essential senilism, like essential infantilism, shows itself in more than one form, and we are now concerned with that form which has received the name of “progeria.” In this disease the premature senile decay is exceedingly pronounced, and throughout its whole course runs hand in hand with a form of infantilism. It is highly probable that progeria, like ateleiosis, varies with the age of its occurrence, but at present we are only acquainted with that which begins (like ateleiosis) in infancy or early childhood. This disease is so excessively rare that only three cases have been recorded. The first of these was described by Sir Jonathan Hutchinson (3) in a boy, aged

3½ years, in 1886. The second case, with a post-mortem examination, was described in 1897 (4), and the third came under the care of Dr. Variot in Paris in 1910 (5).

One is tempted to regard progeria as nothing more than ateleiosis combined with premature senile decay. But it is against this view that the senilism forms a conspicuous feature at the beginning, and that the fully developed product shows no trace of ateleiosis in its composition. The patient so affected is a very remarkable and pitiful object. He is conspicuously dwarfed, but his proportions are rather on the adult than on the infantile model. He is but little backward in sex development, but possesses no sexual hair. This no doubt is largely because of the withered condition of his skin and of its appendages. There is perhaps a sparse and feeble growth of whitish hair upon the scalp but nowhere else, and the nails are thin and membranous. Fat is almost completely absent, and the muscles are small and feeble. The vivacity of childhood is conspicuously absent, and the attitude and demeanour are those of a tired valetudinarian.

The condition of the internal organs at the one post-mortem examination that has been made was in keeping with the external appearances, and consisted in a mixture of immaturity and prematurity, some organs being almost normal, others in a state of senile fibrosis or of atheroma.

In seeking for an explanation of the disease it is important to separate it from those conditions in which senilism is consecutive to infantilism. Thus premature senile decay may apparently ensue as the result of ateleiosis. This I believe is the explanation of a case (6) which was once brought to my notice in which a woman of infantile size and proportions began to show signs of old age after the age of thirty, and died from senile decrepitude at forty-two. Subsequent inquiry into this case has convinced me that there was no premature old age at the beginning, but, on the contrary, unmixed ateleiosis.

Another case of senilism consecutive to infantilism is that of the celebrated French dwarf Nicholas Ferry, or Bébé, who seems to have owed his dwarfism (infantilism) to a combination of congenital syphilis with microcephaly. He was court dwarf to Stanislaus of Poland, and was of childish size and appearance until the age of sixteen. He then rapidly fell into a state of senile decrepitude; his nose increased prodigiously in size, his back became crooked, his head fell forward, he lost his gaiety of spirit, and ultimately became lethargic and died of old age at twenty-two. His skeleton,

now in the Natural History Museum of Paris, is about the size of that of a child of four, but shows conspicuous senile changes, especially with respect to the nose and jaws.

From the study of these and other cases of senilism, it is patent that progeria is distinct from consecutive senilism. It is not mere

FIG. 2.



senile decay implanted upon a previous infantilism. Neither is there any reason to suppose that any one organ is responsible for the change. It is far more likely that the disease is, like ateleiosis, a regressive major variation in which the body is involved as a whole. It seems highly probable that in the first place the change is senile, and that this blight of senility, falling upon the body at such an exceedingly early age, so retards its development that infantilism results, and that these two processes of infantilism and senilism then run their course together.

The characters of progeria are shown in the photograph, which was taken when the patient was fifteen. The stature and proportions are childish, but the physiognomy, leanness and baldness are elderly. There was in reality a thin growth of white hair upon the scalp. The ear lobule is absent; the nasal cartilages were much more conspicuous than is indicated in the figure; some conspicuous veins meandering over the scalp are not visible in the photograph, and the nodosity of the fingers, owing to prominence of the epiphyses, is not very clear.

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A SUPPURATING OVARIAN CYST IN A GIRL, AGED 10 YEARS, PROBABLY INFECTED FROM HAIRPINS IMPACTED IN THE VAGINA.*

By HERBERT J. PATERSON, M.C., F.R.C.S.,
Assistant Surgeon to the London Temperance Hospital.

A GIRL, aged 10 years, was admitted to hospital on December the 16th, 1903, under the care of Dr. Soltau Fenwick. Eighteen months previously she had been in hospital with abdominal pain, supposed to be due to tuberculous peritonitis. Since then she had remained quite well until December the 6th, when she complained of headache and pain in the abdomen, accompanied by vomiting and some vaginal discharge.

Condition on admission.—Patient was thin, dark-complexioned, rather delicate-looking and anæmic. Her breath was very offensive. The abdomen was distended, but there was no tenderness anywhere. Her temperature was 100°. Between December the 17th and the 28th she had a hectic temperature varying between 97° and 102°.

* Paper read at the Royal Society of Medicine (Obstetrical and Gynæcological Section) on April the 6th, 1911.

On the 31st the temperature rose to 103.6° , was accompanied by pain in the right iliac fossa, and continued irregular, with daily remissions.

On January the 6th, 1904, there was pus in the urine, with marked resistance in the right iliac fossa. On the 12th the temperature was 103° , and operation was decided upon. Chloroform was administered on the 13th, and an incision was made through the muscles in the right iliac region. After separating adhesions the appendix was found inflamed and enlarged, and adherent to the brim of the pelvis, and when removed was found to contain pus. The intestines were plastered over the pelvis, so no examination of the pelvic viscera was made. The incision was closed with through-and-through silkworm-gut sutures, with a drainage-tube at its lower end.

After the operation the patient seemed much better, the temperature was comparatively lower, although the diurnal variations were still rather great, but after a few days the temperature began to rise again, until, on February the 4th, it once more reached 103.6° . There was more pus in the urine and more albumin. The bladder was washed out daily, and after a few days there was remission of the temperature, only to be followed by a steadily increasing rise with greater daily variations.

On March the 2nd I examined the patient under an anæsthetic, and on putting my finger into the vagina discovered the rounded ends of two hairpins, the points of which were firmly embedded in Douglas's pouch. These were removed. I thought that with the removal of the hairpins the temperature might become normal, but this not being the case it was decided to re-open the abdomen to ascertain if there was a septic focus in the pelvis. The presence of the hairpins in the vagina could not be accounted for, as in spite of repeated coaxing, entreaties and scoldings, the patient denied all knowledge of the matter.

On March the 9th I opened the abdomen in the middle line below the umbilicus. After tedious dissection and separation of adhesions, the intestines being extensively matted together all over the lower part of the abdomen, a dark, rounded swelling was discovered immediately behind the bladder, adherent on all sides to the intestines. The swelling was tapped and found to contain pus. The trocar hole was sewn up, and the cyst was then carefully removed. A drainage-tube was placed in the cavity left by the cyst, and the wound was sewn up by interrupted silkworm-gut sutures. The patient made an uninterrupted recovery. After the operation the temperature was only once above 99° .

She left the hospital on April the 21st in good health, having put on weight.

On October the 12th, 1905, she was re-admitted. She had been for a year at a convalescent home at Enfield. During that time she had had pain occasionally in the appendix scar, accompanied by some bulging. The pain was relieved by rest in bed for a few days. On admission she was in good condition. There was some gurgling in the right iliac region, and some bulging, the intestines probably being adherent to the appendix scar. There was no swelling elsewhere in the abdomen. Nothing was then done, and she was discharged on October the 21st.

On December the 11th, 1905, she was re-admitted for examination under an anæsthetic, which took place on the 21st. *Per vaginam*: In the upper part of the vagina was a slight annular stricture, above which was a pouch about half an inch deep, at the top of which the vaginal mucous membrane was slightly thickened and nodular. *Bimanually*: High up in Douglas's pouch was a rounded swelling like the fundus, which could be traced down to the top of the pouch above described.

Before anything further could be done the patient developed scarlet fever, and was sent to a fever hospital. Two years later, on December the 14th, 1907, she was again admitted. During the interim she had been in service, and had found that the bulging of the wound in the right iliac fossa caused her pain and discomfort. Her weight was then 6 st. 11 lb. 13 oz. On the 19th she was anæsthetised, and an incision was made through the scar in the right iliac fossa. A portion of the intestine was adherent to the scar at one spot, and a tag of omentum to the site of the appendix, but beyond this there were no adhesions anywhere in the abdomen. The intestine was separated from the scar, the scar-tissue excised, and the wound sewn up in three layers. The central wound was treated in the same way, as it showed signs of weakness at its lower part. The wounds healed by first intention, and the patient left the hospital on January the 11th, 1908. Since then she has been in service, and when last heard from (February, 1911) was in perfect health.

This case is interesting, not only because of the rarity of ovarian cysts in children, but also on account of the difficulty in diagnosis. At first it was thought that the patient was suffering from tuberculous peritonitis, but subsequently the irregular temperature and tenderness in the right iliac fossa led to a diagnosis of suppurative appendicitis, for which operation was undertaken. The operative

findings seemed to confirm the diagnosis of appendix trouble, as the appendix was inflamed, enlarged, buried in adhesions over the brim of the pelvis, and contained pus. For a few days the patient improved and the temperature fell, but soon rose again, with a renewal of its daily oscillations, so that the presence of further trouble was clear.

The discovery of the hairpins deeply embedded in the vaginal wall made one suspect pelvic suppuration, and on opening the abdomen later a suppurating ovarian cyst was found, which had probably become infected from the foreign bodies in the vagina. It is, of course, impossible to say whether the appendicitis was primary or secondary to the pelvic condition, but I am inclined to regard it as secondary.

An interesting feature of the case is that at the subsequent operation for ventral hernia all trace of the dense pelvic adhesions had disappeared.

In 1896 Mr. Bland Sutton published a table of 79 cases of ovarian cysts in children, of which 41 were instances of simple cysts or adenomata, and 38 cases of dermoid cysts. I have collected 38 more cases, of which 15 were dermoids. It is interesting to note that in two instances operation was undertaken for supposed acute appendicitis, as in my own case. Torsion, it is stated, occurred in four cases. Judging by the records, suppuration is a rare complication, as it is mentioned in three only of the whole series of cases.

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EPIDEMIC ANTERIOR POLIOMYELITIS: ITS SYMPTOMS
AND TREATMENT; WITH A REVIEW OF RECENT
INVESTIGATIONS INTO THE EXPERIMENTAL DIS-
EASE IN MONKEYS.*

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THE disease long known as acute anterior poliomyelitis, spinal infantile paralysis, infantile atrophic paralysis or essential paralysis of children was first described by Underwood (1), of England, as far back as 1774, but it was not until 1860 that Heine (2) published the first reliable account of the disease, and suggested that the causative lesion was in the spinal cord. His theory was verified by Cornil (3) in 1863, who then demonstrated the spinal lesion, his observations being confirmed by Provost in 1865, and later by Lockhart Clarke (4) and Charcot and Joffroy (5).

There are few diseases of early life that present so many interesting problems as does anterior poliomyelitis, and there are still fewer in which our knowledge as to causation and prevention has made so little advance in spite of the many and thorough investigations which have been made into the spontaneous disease in the human subject.

During the past twelve months, thanks to the brilliant laboratory research of Flexner and Lewis in America, and of Römer (6), Joseph (7), Levaditi (8), Landsteiner and Popper (9) in Europe, many of the secrets of this widespread disease have been unravelled, and it is in order to bring the results of these recent investigations to your notice that I have made it the subject of this communication. A further reason for selecting this subject is that during the past summer and autumn I have noticed a decided increase in the number of cases of poliomyelitis at the Children's Infirmary in Liverpool, the symptoms of which were such as to closely resemble the epidemic type as recently described in Europe and America: it is therefore probable that next summer we shall see a further increase, if not an actual epidemic of this disease in England, and in order to cope with it effectually it is of the utmost importance that we should acquaint ourselves with the recent advances in our know-

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ledge as to its causation and prevention, in order that we may be alert to detect its earliest appearance, and be ready to employ such measures as will check its advance, and thus safeguard the community from a disease the permanent consequences of which are so well known to all.

The infectious origin of the disease has long been rendered highly probable by the frequent observation of its epidemic occurrence, such epidemics in the past having been recorded by Medin (10) and Brieglib in Europe, and by Colmer (11) and Caverley (12) in America. During recent years there has been a widespread epidemic invading Sweden, Norway, Germany, Austria, and the United States of America; and our knowledge of the disease up to 1907 has been clearly stated in a monograph by Wickman (13), in which he produces convincing evidence of the contagiousness of the disease.

The symptoms of the ordinary type may thus be briefly stated: A child, usually under five years of age, becomes suddenly feverish, restless, and irritable; vomiting is a frequent early symptom and not unfrequently diarrhoea, and there is pain and discomfort on handling. These symptoms continue for three or four days, during which the temperature ranges between 101° and 102° , the irritability and the tenderness being the most noticeable features. The fever then disappears and the child becomes bright and cheerful, but when he attempts to get up, if the discovery has not been made before, he is found to be paralysed in one or more of his limbs. This is followed by a period of quiescence lasting one to four weeks, after which the paralysis begins to disappear, until at the end of one to six months it is limited to one extremity or to a single group of muscles. Rapid atrophy of the affected muscles with loss of faradic irritability has meanwhile set in, and leads eventually to the various deformities with which we are all so painfully familiar.

The epidemic type differs in many important respects from the sporadic, one peculiarity being that it not unfrequently attacks older children or even young adults as well as infants. The symptomatology also differs in many details: the fever lasts longer, is a more prominent factor, and is always present, whilst in the sporadic form it is not unusual for a child to go to bed perfectly well and awaken in the morning with characteristic spinal paralysis. Further, at times it lasts for many days after the appearance of the paralysis. Delirium and stupor are frequently observed, but there is no vomiting except at the onset of the attack: the disease may commence with intestinal disturbance, but in other cases constipation

is present. Hyperæsthesia of the whole body is common, and cervical rigidity with head-retraction is frequently seen on the first, second, or third day. The patellar reflexes are usually absent, and extreme pain in handling the limbs is a common feature. In older children incontinence of urine and fæces, an unusual symptom in sporadic cases, often occurs, and owing to the liability of the medulla, pons and other parts of the central nervous system to be involved, acute brain symptoms are frequently observed.

This type of the disease is well illustrated by the case of Samuel M—, aged 2 years and 7 months, who was admitted into the Children's Infirmary on October the 24th of last year. We were informed that a week previously he had suddenly become irritable, feverish, and had vomited: he complained of pain in his head and feet, and a few days before admission it was found that he had lost all power in his legs. On admission his temperature was 100° F. pulse 132 and regular, he was extremely irritable, and marked tenderness was observed on handling. There was cervical rigidity with retraction of the head, but no Kernig's sign, and the patellar reflexes were absent. There was paresis of the right external rectus and right side of the face and rigidity of the left lower extremity. The optic discs were examined and found normal. He thus presented a symptom-complex which markedly suggested cerebro-spinal meningitis, so I accordingly at once performed a lumbar puncture and withdrew 25 c.c. of clear cerebro-spinal fluid under increased pressure which on examination gave a good Fehling reduction, showed no excess of protein, no polymorphonuclear cells and only a slight increase of lymphocytes. The fact that it reduced Fehling and contained no excess of protein enabled us at once to exclude the possibility of meningitis, whereas the excess of lymphocytes coupled with the paralysis, and the absence of knee-jerks, justified the diagnosis of polio-myelo-encephalitis, which was subsequently confirmed by the rapid and marked atrophy of the paralysed limb.

Another case, but of a less severe type, was that of Frances P—, aged 3½ years, who was taken ill with a feverish attack and irritability on September the 21st, 1910. There was no vomiting, and the bowels were constipated. On the following day it was found that she was unable to sit up in bed and that both lower limbs were paralysed. On September the 24th examination revealed complete paraplegia and paralysis of the deep muscles of the back: the patellar reflexes were entirely absent and the superficial reflexes were faint: the temperature was 100° F., respirations 24, and pulse 120.

The febrile disturbance continued for eight days after the paralysis appeared, and there was marked hyperæsthesia and tenderness on handling the muscles which did not totally disappear for eight weeks. Seventeen days after the onset the left leg was noticed to be colder than the right and measurement showed considerable atrophy of the thigh and leg muscles. In five weeks the paralysis of the back muscles had disappeared and movements in the lower limbs were beginning to return. The points of interest about this case are the long-continued febrile disturbance and the marked tenderness and pain which continued for many weeks after the temperature had become normal, suggesting involvement of the posterior nerve-roots which is frequently observed in the epidemic type.

The epidemic of 1909 in which the disease widely prevailed in France, Germany and America led to a renewed and vigorous study of the infection, which resulted in most valuable and important discoveries, the more salient features of which I now propose to discuss. In 1907 Flexner and Lewis first attempted to transmit poliomyelitis from human beings to monkeys by means of injections of the cerebro-spinal fluid obtained by lumbar puncture, but failed in every instance to produce symptoms which in any way suggested or resembled the disease. In September, 1909 (14), they obtained for the first time, in a fresh and sterile condition, the spinal cords of two children who had died of the disease: of these an emulsion in saline solution was made which on being injected directly into the brain of monkeys resulted after a few days in typical symptoms and paralysis. This in itself was important, but it was further demonstrated that the spinal cord of the first series of monkeys, when treated in a similar way, was also successful in transmitting the disease to a second series, and the experiment was repeated through twenty-five generations of the virus, twenty-five series of monkeys being used for the purpose. They also observed that the incubation (15) period, reckoned as the interval of time between inoculation and the first appearance of paralysis, varied from three or four to thirty-three days, the average period being eight days, and that from six to eight hours before paralysis there were distinct prodromal symptoms consisting of undue nervousness, excitability, inability to fix the gaze and erection of the body hairs. The onset and extent of the paralysis was in every way similar to that seen in the human subject, the only point in which the experimental disease differed being the high mortality which accompanied it. They, therefore, at the very onset of their experiments not only proved beyond all doubt the infectious origin of the active agent but also

established the length of the incubation period, a point upon which all previous investigators had been silent.

Pathological (16) investigation also showed a close similarity between the experimental and spontaneous disease. To the naked eye all that was visible was congestion and hæmorrhage into the spinal cord and medulla, chiefly, but not exclusively, affecting the grey matter of the anterior horns. Microscopically no part of the spinal cord, including the medulla, was free from lesions, but the most severe were always found at those levels corresponding to the groups of muscles most severely paralysed. In the spinal meninges there was seen a diffuse infiltration of round cells into the adventitial coat of the blood-vessels, the muscular coat and the intima being unaffected except that the lumina of the smaller vessels were not unfrequently encroached upon or even blocked by compression. The cellular infiltration was always interstitial, made up almost exclusively of mononuclear cells, and did not give rise to exudate on the surface of the cord or brain. In the grey matter of the cord the lesions were most extensive in the anterior horns, but were also found in the posterior cornua and in the columns. The lesions consisted of cellular infiltration and œdema of the perivascular spaces and sometimes of small hæmorrhages. As a rule the lesions were only minute foci of injury, whereas in other cases the anterior horn was completely degenerated: the infiltration of the perivascular sheaths of the vessels was continuous with that of the pia arachnoid. The intervertebral ganglia were always found to be affected with a diffuse and nodular infiltration of lymphocytes, especially between the nerve-cells and nerve-fibres, both of which were at times degenerated or necrosed. The brain, though less commonly affected, is not spared, and there, too, the injuries depend upon vascular lesions of a similar nature.

From the nature and distribution of the lesions it would therefore appear that the virus becomes first implanted on the lepto-meninges, where it causes cellular infiltrations, which are most marked in the perivascular lymph-spaces of the arteries which enter the nervous tissues. The extent of the inflammation depends upon the richness of the arterial supply, and thus is explained the liability of the lumbar and cervical enlargements to the more severe lesions. It would also appear that the majority of the paralyses that are not permanent are due to temporary vascular impediments and œdema situated outside the lumina of the blood-vessels, whereas the groups of muscles permanently paralysed are dependent upon necrosis resulting from the more severe degenerative processes.

Attention was next directed towards determining the nature of the virus (17) responsible for producing the disease. A very thorough and painstaking study of film preparations and sections obtained from the nervous structures and other organs, both of human subjects and of monkeys, failed entirely to discover any of the bacteria which had previously been described by other investigators; it was therefore thought that the infective agent, like that of rabies and vaccinia, must belong to that class of minute and filterable viruses that have not thus far been demonstrated under the microscope. This on investigation proved to be correct, for an aqueous suspension, obtained by preparing an emulsion of the spinal cord in distilled water, passed with great readiness and no loss of potency through the pores of the Chamberland and Berkefeldt filters. On staining film preparations minute points, circular or oval in form, were seen under the highest powers of the microscope, and when examined under the dark field innumerable bright dancing points were observed. These particles, however, cannot be said to represent the organism, as similar objects have been seen in filtrates obtained from spinal cords not affected with poliomyelitis. It was, therefore, ascertained that the filtrates were highly potent, $\frac{1}{10000}$ to 1 c.c. being sufficient to produce the disease when injected into the brain. The virus is also highly resistant; it withstands glycerination for weeks or months, it is not destroyed by drying over caustic potash, and it still retains its potency on being frozen or kept for weeks at a temperature slightly above the freezing-point of water. On the other hand, it is destroyed on being exposed to a temperature of 45° to 50° C. for thirty minutes; also by a 1 per cent. solution of hydrogen peroxide, and by such simple disinfectants as menthol. Whether the virus can be cultivated outside the body is a doubtful question, but Flexner (18) early secured indications that it multiplied in a medium of bouillon mixed with human serum; but he has not yet succeeded in producing paralysis with these possible cultivations. That it is a living organism must be concluded from the fact that such minute quantities of it have sufficed to carry infection through an indefinite series of animals, representing twenty-five removes from the original human materials supplying it. Repeated attempts have been made to implant the virus on other animals, but so far without success, with the exception of Krause and Meinicke (19) in Germany, who alone claim to have transferred the disease to rabbits.

Attention was now turned to the path (20) by which the virus gains entry into the system. It was early demonstrated that

successful inoculations of the virus could be made by way of the peritoneum, general blood-stream, the sub-cutis, the spinal canal and the large nerves; but none of these avenues lead so uniformly to paralysis as did the original intra-cerebral route. It was, however, now discovered on scarifying the mucous membrane of the naso-pharynx and inoculating the virus by means of a swab upon the injured surface that manifestations of paralysis, with few exceptions, promptly resulted. Upon theoretical considerations Flexner regarded with special suspicion the mucous membrane of the naso-pharynx as a probable path of elimination, as well as of entry of the poison, and this opinion was confirmed by making successful inoculations with emulsions of this mucous membrane, obtained from animals who had been infected by the ordinary intra-cerebral route, and which had been previously passed through a bacteria-tight Berkefeldt filter. It had already been demonstrated that the virus could be implanted directly on to the lepto-meninges by injections into the spinal canal by means of lumbar puncture, so that it would appear that not only is the poison eliminated by way of the naso-pharyngeal mucosa, but also that the nasal and meningeal route is the one by which the disease gains an entry into the system. The virus has not thus far been found in the fæces or urine, nor in the intestinal mucous membrane or bile.

The characters of the cerebro-spinal fluid (21), obtained by lumbar puncture also received careful investigation. In twenty-four to forty-eight hours after the injection of the virus it showed slight opalescence, increase of protein and large numbers of lymphocytes and small polymorphonuclear cells; the fluid withdrawn at this stage contained the virus, and when injected by the cerebral route produced the characteristic symptoms. After the paralysis had appeared the fluid was quite clear, contained no excess of protein, and only a small increase in the number of lymphocytes. In the human subject the fluid is rarely obtained in this early stage, and when the disease is established, as I have shown in the case of Samuel M—, it is, with the exception of a slight lymphocytosis, practically normal. Wickman and Fulton, however, have both found a polymorphonuclear excess in the prodromal stage in children, and if their observations are confirmed we shall secure a valuable method by which atypical and non-paralytic cases may be diagnosed.

Numerous experiments have also been conducted to determine the kind and degree of immunity which is produced by the inoculation of the virus. A large number of monkeys have been employed for this purpose, and re-inoculations have been made at periods varying

between eight days and five months after the first appearance of the paralysis. In no instance were there noticed fresh symptoms or any increase in the paralysis which suggested a renewal of the attack. The first attack in the animals experimented upon varied between mere tremor of the head and complete paralysis of all the limbs, so it may be considered as established that an attack of poliomyelitis, even when unaccompanied by definite paralysis, resulted in immunity to re-inoculation with active virus for months and probably for years. Investigations were next made to determine whether this immunity depended upon the presence in the blood of certain protective agencies which were capable of neutralising the virus. This was demonstrated in the affirmative by mixing an active filtrate containing the virus with the blood-serum either of children or of monkeys who had recently recovered from the disease; the mixture was incubated for an hour at 37° C. and then injected into the brain of normal monkeys, and it was found that in no instance did paralysis follow. Further, it has been shown by Netter and Levaditi (22) that the blood-serum of a child after an abortive attack of poliomyelitis also contains a similar protective agency.

Efforts were now made to discover whether the immunity principles contained in the serum were sufficient to neutralise the virus of poliomyelitis when once it was present in the body, and to accomplish this the degree of immunity was first reinforced by subsequent injections of the virus. As a result of these experiments it can be stated that provided the quantity of the virus injected into the brain be not in excess of a given dose the development of paralysis can in many animals be prevented by making several injections of the serum into the sub-arachnoid space by lumbar puncture, whilst in others the onset of symptoms is much delayed; it has also been proved that infection through the nasal mucous membrane can with even greater certainty be prevented by similar injections.

These observations suggested the possibility of producing a therapeutic serum (23) by inducing an active immunity in some of the lower animals. Experiments upon the horse, rabbits, and chickens have shown that these animals do not yield such principles, but on the other hand there are indications that the sheep may react more favourably. It has been found that normal sheep's serum possesses a definite neutralising power when mixed with the filtered virus, and that this power can be reinforced by injections of emulsions of the spinal cord of recently paralysed monkeys, so that now it only remains to be determined whether this augmentation can

be carried out to such a degree as to provide a serum applicable to the spontaneous disease in human beings.

The study of these recent epidemics has already led to considerable modification of our views as to the treatment of the disease, and has taught us that by patient and intelligent methods much can be done not only for the relief of symptoms but also towards diminishing the painful deformities which are so characteristic of the late stages of the disease. In the acute stage, now that we know with certainty that the disease is infectious and also to some extent contagious, the patient should be isolated and the secretions, especially those from the naso-pharynx, should be carefully disinfected and destroyed. Attention must also be directed, as in other infectious diseases, towards promoting the elimination of the poison, and this is best done by thorough depletion of the bowels, the ingestion of a liberal amount of fluid to encourage excretion by the kidneys, and the administration of diaphoretic drugs. The patient should also have a liquid nourishing diet and be placed in a well-ventilated and airy room. In cases where constipation is present, small repeated doses of calomel followed by castor oil will rarely fail to overcome the difficulty, and to promote diaphoresis nothing is more beneficial than a hot pack, which has the additional advantage of relieving pain which is so often present. As soon as the disease is even suspected urotropine should be given in full doses and continued every two hours for three or four days. Flexner and Clarke (26) have recently demonstrated that when this drug is given in full doses to monkeys intra-cerebral injection of the virus of poliomyelitis altogether fails in a certain number of cases to produce paralysis, whereas in others the incubation period is prolonged from six to eight to twenty-four days. If pain is severe, in addition to hot packs, codeine, citrate of caffeine and aspirin in combination are useful: in some cases it may be necessary to administer morphia hypodermically or opium combined with belladonna in the form of a suppository. In cases of an acute cerebral type lumbar puncture should at once be performed, for, in addition to this being the only method by which an early diagnosis can be obtained, relief of symptoms undoubtedly follows its employment.

After the subsidence of the acute stage all therapeutic efforts should be directed towards the paralysed groups of muscles by means of electricity, massage, and active and passive exercises. With regard to the form of electricity to be used, the fact that in all the severer types the muscles exhibit some form of the reaction of degeneration implies that they will not react to faradism, there-

fore the galvanic current is the best to adopt. According to Sachs (24) that pole should be applied to the muscle which gives the best contractions with currents of moderate intensity: thus, if it is found that contraction with the negative pole (K C C) is obtained with weaker currents than is the contraction of the positive pole (A C C), then the muscles should be exercised with the negative pole, the other pole being placed at some distance from the paralysed group of muscles. Currents of moderate strength should be used and the make and break of the current should be made slowly: the treatment should be commenced one week after feverish symptoms have abated.

The paralysed limbs exhibit a distinct tendency to wasting and impairment of peripheral circulation, and to counteract this regular and skilled massage should be commenced as soon as the acute symptoms and the tenderness of the muscles have subsided: by this means you will do much to prevent the contractions of the unparalysed muscles and the deformities which result. Passive exercises are also of the greatest value in the early paralytic stage and should never be omitted; Jelliffe (25) and Sachs recommend that at first they should be given whilst the patient is in a hot bath. Directly the paralysis has commenced to recede active exercises should be commenced: at the earliest possible moment the child should be encouraged to exercise those muscles in which there has been noticed the faintest return of power, and if these measures are carried out effectively and with perseverance there is no doubt that in the future a much smaller number of hopelessly paralysed and deformed limbs will result. On the other hand, if at the end of six to nine months a limb or a group of muscles show considerable wasting, a reaction of degeneration and no return of muscular power, it is useless to hope for further improvement, and the sooner the orthopædic surgeon is called in to correct or prevent deformities, the better.

In conclusion, it may be confidently stated that these investigations, which have been very briefly, and, I fear, inadequately laid before you, have added many important facts to our knowledge of the spontaneous disease in man. The results of Flexner and Lewis, many of which have been confirmed by the independent and in some cases simultaneous investigations of other authorities, establish with certainty the infective nature and many of the properties of the causative agent; they have taught us important clinical characteristics and pathological peculiarities of the disease; they have demonstrated the phenomena of immunity and a mode of spontaneous

infection; and finally they have given us strong hopes that in the near future a specific method of treatment will be attained.

Finally, I would express my thanks to Dr. Flexner for sending me repeated contributions upon the progress of his investigations, and for his permission to use them for the purpose of this paper. Whatever be the ultimate results—and much yet remains to be done—it must be conceded that the establishment in a few months' time of so many important facts in regard to a hitherto unknown infection is a most brilliant demonstration of the advances which have been made in the experimental study of the disease.

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EARLY CARDIAC PARALYSIS AND HEMIPLEGIA IN DIPHTHERIA.

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THE following case is one of considerable interest for two main reasons—first, on account of the recovery of the patient after the very serious and generally fatal complication of cardiac paralysis occurring in the early stages of diphtheria; and secondly, because of the incidence of the very rare complication of hemiplegia, which occurred in the later part of the disease.

A girl, aged $4\frac{1}{2}$ years, was admitted to the North-Eastern Fever Hospital on July the 11th, 1910, on the fourth day of an attack of severe faucial and nasal diphtheria. A culture from the throat was found to contain Klebs-Loeffler bacilli. Twenty-four thousand units of antitoxin were injected subcutaneously on admission. The following day the membrane was loosening from the tonsils, and three or four days later the fauces were quite clean. On July the 13th—the sixth day of disease—there was a trace of albumin in the urine. On July the 15th (eighth day) the earliest suggestion of the coming cardiac trouble presented itself: the first sound of the heart, which up to this time had been quite clear, was noted to be “distant” in quality. For this reason the child was given adrenalin by mouth— mxx of a 1 in 1000 solution—every four hours. For the next three days the first sound of the heart retained the same distant quality, the pulse keeping quite regular. On July the 19th (twelfth day) occurred that symptom of such gravity in the early stages of diphtheria, namely vomiting. The face was pallid, and the pulse was small but regular. The quality of the heart-sounds remained as before, but the rhythm of the beats was beginning to be disturbed, the short space being shortened, and it was evident that cardiac paralysis had set in. There was still albumin in the urine. All nourishment by mouth was withheld and the patient given rectal feeds, consisting of peptonised milk every four hours, to each of which mxx of the adrenalin mixture was added. The pillow was removed, and the nurses cautioned to exercise the utmost care, so that as little strain as possible might be put upon the heart; nothing was given by mouth.

During the next twenty-four hours the child vomited twice. On July the 20th (thirteenth day) that rhythm of the heart of such dire

portent in diphtheria was observed—the cantering rhythm or the *bruit de galop*. The pulse was rapid but not irregular. For the following four days the vomiting and retching were very frequent, and continued for eight days altogether, but with lessening frequency. On July the 22nd (fifteenth day) the cantering rhythm was still present, the apex-beat being within the nipple line at this time. The sounds were fairly strong. On July the 24th (seventeenth day) there was frequent vomiting, and the heart was much dilated, the apex-beat being half an inch outside the nipple line. The pulse was very rapid, as were also the heart-sounds, but the cantering rhythm was not heard. At this time tincture of digitalis m was added to each rectal feed.

Before the administration of the digitalis in the rectal feeds the pulse-rate was 124. The next day the pulse-rate was 132, and the day following the pulse remained small and very irregular.

On July the 27th, that is, on the third day of the administration of digitalis, the pulse-rate fell to 72. The tincture of digitalis was then only given in every second rectal feed. The following day it was given only in every third feed, and the pulse-rate keeping at 72 to 80 the digitalis was omitted altogether on July the 30th. The pulse-rate kept the same until August the 7th when it slightly increased in rapidity (88–100) and remained much the same until the child's discharge from hospital.

The patient thus appeared to benefit from the exhibition of the digitalis. Some have stated that this drug is contra-indicated in the early cardiac paralysis of diphtheria, an opinion which, from personal experience to the contrary, I do not hold with.

On July the 25th, the eighteenth day of disease, the vomiting had almost ceased. The pulse was small and very irregular. Albumin was still present in the urine, and the voice had a nasal twang. The apex-beat of the heart was one inch outside the nipple line. The sounds were very irregular but were remarkably good for so much dilatation. This latter, together with the absence of restlessness, I considered to be good prognostic signs; the child was also very bright and cheerful all through her illness considering the gravity of it. At this time the colour of the face had improved a little.

On July the 26th (nineteenth day) the patient vomited again. The pulse was very irregular, but the heart was not quite so dilated, the sounds remaining fairly good, the first sound, however, not being quite so clear as on the preceding day. During the next twenty-four hours the patient vomited five or six times, on one occasion

bringing up some blood-stained bile. On July the 27th (twentieth day) the heart was still less dilated, the apex-beat being only a quarter of an inch outside the nipple line. The first sound of the heart had rather improved in quality and the sounds were decidedly more regular. On July the 28th (twenty-first day) the condition was much the same. Vomiting occurred on this day also. The pulse was rather irregular, soft and slow (64). On July the 29th (twenty-second day) the heart was still dilated. Pulse 74. Vomiting and retching were still present and there seemed to be some paresis of the left labial muscles. There was also slight abdominal distension and diarrhœa. The voice was still very nasal. The persistent diarrhœa made rectal feeding impossible. Vomiting and retching likewise precluded feeding by mouth. The diarrhœa was temporarily checked and rectal alimentation made possible by an injection of mx of tinct. belladonnæ in 2 oz. of starch an hour before the rectal feed.

The next day, July the 30th (twenty-third day), the diarrhœa returned; the pulse being very much improved (80) and the heart less dilated, the tincture of digitalis was omitted from the rectal feeds. There had been no vomiting or retching since the previous evening; the diarrhœa persisting, however, nasal feeds of six ounces of peptonised milk were given every four hours. Paralysis of the sphincter vesicæ showed itself on this day, and lasted till August the 16th. Tincture of belladonna mx and adrenalin mxx were given in each nasal feed. From this time onward the heart began to contract down, although on some days there was rather more dilatation than on others. The weakness of the left labial muscles remained for some six or seven days.

On August the 2nd (twenty-sixth day) the child seemed brighter, and on this day was noticed reduplication of the first sound of the heart, and this tendency to reduplication lasted for sixteen days or so, with the exception of one day (August the 7th), on which the rhythm was again decidedly cantering.

On August the 4th there was a slight internal paralytic squint of the left eye. The voice was still nasal. Milk thickened with Benger's food was swallowed without difficulty, but unthickened milk was regurgitated through the nose. From this time onwards there was a gradual return to ordinary diet, eggs beaten up in milk being first given, followed by baked custard pudding and sponge cakes, until on August the 16th she was allowed minced meat, although it was not until about this time that the child could readily swallow thin liquids without the risk of regurgitation.

The nasal twang of the voice continued until about September the 5th—the fifty-ninth day of the disease. The albuminuria was present from July the 13th until August the 6th, the urine remaining quite normal for the rest of the patient's stay in hospital, with the exception of a faint trace of albumin on September the 9th.

On August the 18th (forty-second day) the knee-jerks were found to be absent. On August the 19th (forty-third day) paralysis of the left upper limb occurred, the child lifting and moving this arm about with the right arm, which was quite normal. The note made two days later was—"Left arm: child cannot abduct the arm from the body; there is paralysis of the deltoid. She can flex the forearm on the upper arm, but the triceps seems to act only feebly. She cannot supinate or pronate the left forearm. Left hand-grip feeble. Neck muscles apparently not paralysed. She cannot flex the wrist, but can extend it. The extensors of the forearm are apparently the only muscles unaffected. Right arm normal."

A few days after the paralysis of the arm was noted the left leg was also found to be paralysed. This probably occurred at the same time that the arm became paralysed, and was overlooked on account of the great care that was exercised in order that no excessive strain should be put upon the heart, which had recently been so seriously paralysed, the condition being further marked by the very weak condition of the child. There was no aphasia. No knee-jerks were present on either side, although the right leg was quite readily moved by the patient.

On August the 30th the child seemed to be gaining strength in the left arm.

On September the 1st (fifty-sixth day) some difficulty in swallowing presented itself with some dribbling of mucus from the mouth. There was probably some pharyngeal palsy, but not sufficiently pronounced to necessitate artificial feeding. The diaphragm was not affected. Left internal paralytic strabismus was still present.

By September the 19th (seventy-third day), *i. e.* thirty days after the onset of the hemiplegia, the left arm and leg had both almost recovered their normal state, the only paralysed muscles being the extensors of the left thumb and the peronei muscles of the left leg. This condition remained unaltered up to the time the child was discharged from hospital.

On September the 12th the child was allowed to be propped up in bed, and on September the 24th she was allowed out of bed in a chair. On October the 5th she was given her clothes when she could walk a little without assistance.

On her discharge from hospital on November the 25th, 1910, the condition of the left thumb and left foot was unchanged. She could not abduct her foot, and there was in consequence a little indecision with the left leg on walking. She was advised to have electrical treatment for the paralysed muscles.

The child, seen on March the 13th, 1911, having had electric baths, followed by massage three times weekly in the interval, showed the following condition: The extensors of the left thumb were still weak, and the flexors over-acting drew the thumb towards the palm. The child consequently picked up objects with this hand awkwardly. The hand grip was weak, but seemed to be a trifle stronger than it was four months previously. The muscles of the left arm and forearm seemed a little stiff, but all the movements were free. She could walk better than when she left the hospital, there being almost imperceptible dragging of the left foot; the peronei muscles were, however, still weak, so that the foot could not be thoroughly everted. No knee-jerks were obtainable on either side. The child's health was good and her mental condition excellent. The right arm and leg were quite normal; the heart appeared to be quite sound. The mother informed me that at the hospital where the child was undergoing treatment at the present time they held out hopes of the complete recovery of the affected muscles.

The only other case in which hemiplegia has been noted as occurring during an attack of diphtheria during the three years 1908, 1909, 1910, among 1364 cases of diphtheria admitted to the North-Eastern Hospital, was that of a child under the care of my colleague, Dr. E. G. Leopold Goffe, to whom I am indebted for the following notes:

A boy, aged $3\frac{1}{2}$ years, was admitted to hospital on February the 28th, 1910, on the fourth day of disease, with a moderately severe attack of diphtheria, the membrane being confined to the tonsils and the cervical adenopathy not very marked. An injection of 16,000 units of antitoxin was given on admission. The fauces were clear of membrane on the eighth day of disease. On the eleventh day there was paralysis of the palate shown by regurgitation of fluids through the nose on attempts at drinking. A mixture containing adrenalin (mx of a 1 in 1000 solution in each dose) was given by mouth thrice daily from the day of admission—a practice frequently resorted to with a view of warding off, if possible, the early cardiac paralysis so much dreaded in severe cases of diphtheria. However, despite this, on the fifteenth day cardiac vomiting set in with marked pallor and enfeebled pulse, necessitating rectal alimentation.

Two days later the cantering rhythm was heard over the præcordial area, and the liver was much enlarged, the lower edge being on a level with the umbilicus.

On March the 12th, the sixteenth day of disease, complete right hemiplegia occurred. The right arm and leg were flaccid. No knee-jerks were obtained on the right side, and the right abdominal reflex was also absent. In the left leg knee-jerks could be elicited and the left abdominal reflex was present. Extensor response to plantar stimulation was present on both sides.

Diaphragmatic paresis set in on the eighteenth day of disease and became complete on the twenty-first—the day of death.

On the eighteenth day the right pupil was dilated; the day following there were opisthotonos and Cheyne-Stokes' respiration. Death occurred on March the 17th, the twenty-first day of disease, the end being ushered in by slight convulsions. No autopsy was made.

In this case the urine remained normal throughout, and with the exception of two rises to 100° F. the temperature was subnormal through the whole course of the disease.

The interest of these two examples of this rare complication of hemiplegia in diphtheria is increased by their both presenting the condition of early cardiac paralysis. In the case of diphtheritic hemiplegia recorded by Dr. J. D. Rolleston ('Review of Neurology and Psychiatry,' 1905, iii, p. 722) this condition also preceded by some days the onset of the hemiplegia—an interesting circumstance in view of the fact that in the few recorded cases of autopsy after diphtheritic hemiplegia embolism or thrombosis of the brain has generally been found.

Dr. Rolleston made a search through the whole of literature, and found a total of only 65 cases of hemiplegia following diphtheria recorded, thus showing how infrequently the complication is present. In these 65 cases right hemiplegia occurred in 38, and left in 22.

In my case there were no mental symptoms. As mentioned above, the child was particularly bright and cheerful even at the worst stages of her illness, and all through showed marked intelligence. Rolleston's case showed motor aphasia, the hemiplegia in this instance being in the right side.

Although it may be said that, as a rule, cases of early cardiac paralysis, that is, paralysis of the heart coming on some time during the second week (from the seventh or eighth to the fourteenth days), are generally fatal, some few do recover, but it is certainly very exceptional in such severe cases as the first of the two that I

have recorded. Thus at the North-Eastern Hospital during the three years 1908-10 there were noted 33 such cases of equal severity to my case among 1364 cases of diphtheria under treatment during that time. Of these, 32 were fatal. There were 11 cases in 1908, 7 in 1909, and 15 in 1910, giving a mortality percentage of 96.6. Amongst these 1364 cases paralysis of all kinds occurred in 326 instances, giving a percentage incidence of 23.90. Amongst the 326 cases of paralysis severe early cardiac paralysis was noted in 33 instances. Thus this form of paralysis occurred in 10.1 per cent. of all forms of paralysis, and in 2.4 per cent. of the total diphtheria cases. There are, of course, instances of milder forms of cardiac irregularity coming on in the early stages of diphtheria which all tend to recovery. I have not included these. As an example of the milder forms, I may mention that I have now under my care a severe case of diphtheria which within the second week of the disease had palatal paralysis, followed shortly afterwards by a typical *bruit de galop* lasting for some days, with irregular pulse, but in which no symptom such as vomiting, restlessness, or pallor occurred, the heart subsequently regaining its normal rhythm.

I am indebted to Dr. Thomson, Medical Superintendent of the North-Eastern Hospital, for permission to publish these cases.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, May the 26th, 1911.

Dr. E. CAUTLEY, *President, in the Chair.*

A discussion was held on Dr. R. MILNE's paper on **Measles: Its Treatment and Prevention**, which had been adjourned from March the 24th. In his paper Dr. Milne advocated the treatment by inunction of the body with eucalyptus oil and the local application of 1 in 10 carbolic oil to the throat, by which means he maintained that infection could be prevented.

Dr. J. D. ROLLESTON, in opening the discussion, challenged Dr. Milne's statement as to the dangers of hospital treatment, giving instances of the good results obtained in those Paris hospitals in which individual isolation is practised. He thought that more convincing proofs of the efficacy of the treatment proposed were needed, and asked for the *rationale* of the method advocated. As the contagion was chiefly spread by discharges from the nose and eyes, especially during the pre-eruptive period, it was difficult to under-

stand what useful purpose could be served by inunction of the skin with eucalyptus oil and the application of carbolic oil, itself an antiseptic of very doubtful value, to the throat. Inunction of the skin, in Dr. Rolleston's opinion, was of very doubtful advantage in scarlet fever, and of still less value in measles. Dr. Milne further claimed that his treatment rendered disinfection unnecessary, but under ordinary circumstances the process was not required unless the patient died from broncho-pneumonia or some secondary infection. After further criticising Dr. Milne's statistics, Dr. Rolleston concluded that the author had failed to substantiate the claims which he had set forth in his paper.

Dr. BEZLY THORNE upheld the use of eucalyptus oil, having found it very beneficial in his early days. It was, however, open to the objections that patients disliked it and that it irritated the skin. He therefore substituted an aqueous emulsion of carbolic acid, which he used for scarlet fever, measles, and varicella, and gave eucalyptus oil internally, with the result that his cases ran a benign course and all danger of infection was prevented.

Dr. BIERNACKI said that Dr. Milne did not appear to have sufficiently distinguished between scientific evidence and information which could not be called scientific. Scarlet fever varied greatly in the intensity of its infection in different districts at the same time, and in the same district at different times. During a severe epidemic of measles he had tried Dr. Milne's method and found it a total failure. There had never been so many cross-cases at the hospital as when that treatment was being carried out. Nevertheless the fact that a treatment had been tried and failed was not a sufficient reason for refusing to try it, and he recommended that someone should try the method, quite independently, working under the same conditions as Dr. Milne had.

Dr. T. R. WHIPHAM dealt with the question of the conveyance of measles infection by a third person, such as a nurse, and asked whether a nurse doing duty in a ward could be so saturated with eucalyptus oil that she would not convey measles to another patient. He inquired at what period should the treatment be carried out. Was one to assume that every case with indefinite symptoms was a potential case of the disease, or should one wait until the characteristic signs were evident? In the latter case what was to prevent the spread of the disease during the incubation period? While if every indefinite case was to be treated early, one would be continually living in an atmosphere of eucalyptus. No suggestion as to the *rationale* of Dr. Milne's method had yet been advanced, nor as to how the internal administration of eucalyptus, as recommended by Dr. Bezly Thorne, acted.

Dr. MILNE replied at considerable length. He had issued a free invitation to the members of the Section and all interested to come and see his cases. After the use of the eucalyptus oil there was a decided odour of it in the urine. All the complications arose through secondary infections, but when the throat was treated early secondary infections never occurred. He was able to advance hundreds of testimonials in support of his position, and he would be glad to know how he could have done more than he had to have his system properly tested.

Dr. BEZLY THORNE, answering Dr. Whipham, said that he assumed the eucalyptus oil acted by destroying the bacilli, particularly when it was taken internally, but he could no more explain how the eucalyptus oil acted in these cases than how quinine acted in malaria.

The following cases were also shown :

Dr. E. CAUTLEY: (1) **Pyloric Hypertrophy and Spasm** in a male infant, aged 10 weeks, who had weighed 6 lb. at birth. Fed on Allenbury No. 1 food he gained 1 lb. in the first week and then began to vomit. The vomiting became more severe and projectile in character, and the bowels were constipated. Feeding on whey, cream, and lactose had checked the vomiting and brought about an increase in weight, and the stools were normal. There was marked peristalsis of the stomach, extending to the duodenum, and the pylorus was palpable but not much enlarged. The stomach was not dilated, and it was thought justifiable to wait longer before advocating operation. (2) **Cerebral Sclerosis and Idiocy** in a girl, aged 2 years and 4 months, with no history or evidence of syphilis. The child was stated to have been normal until nine months of age, when she developed fits of opisthotonos and screaming. She was small and wasted, and had never been able to sit up or talk. There was opisthotonos and head-retraction, with general rigidity and spasmodic movements of the limbs. The knee-jerks were exaggerated, and Kernig's sign was present. The child was blind, but the eyes showed no abnormal features. The diagnosis lay between a sclerosis of post-natal origin, perhaps secondary to encephalitis, and cerebral palsy of the type known as cerebral spastic diplegia.

Mr. P. L. MUMMERY: (1) **Fatty Tumour in the Abdominal Wall.** (2) **Severe Tuberculous Peritonitis cured by Laparotomy** in a girl. When first seen the child was emaciated and anæmic, and the abdomen was distended with fluid. General treatment causing no improvement laparotomy was performed, when the peritoneum was found to be covered with tubercles. As the result of the operation the child had got quite well, and there was now no evidence of tuberculous peritonitis.

Mr. S. STEPHENSON: **Night-blindness with Peculiar Conjunctival Changes** in a boy. The subjects of this condition usually suffered from insufficiency of food, and the amount of hæmoglobin in the blood was always below normal. The relation of the condition to snow-blindness and keratomalacia was discussed.

The cases were discussed by Dr. W. EWART, Dr. G. A. SUTHERLAND, Mr. P. L. MUMMERY, and the PRESIDENT.

EPIDEMIOLOGICAL SECTION.

Friday, May the 26th, 1911.

Epidemiology of Poliomyelitis.—Dr. FREDERICK E. BATTEN said the purport of the paper was to state shortly the facts known in regard to poliomyelitis as an infective and epidemic disease.

He first defined the term "poliomyelitis," and used it in the wide sense as an infective disease which may affect any portion of the central nervous system, and give rise to a variety of symptoms dependent on the portion of the nervous system affected. The nature of the virus was then dealt with, and the works of Landsteiner, Popper, Levaditi, Flexner and Lewis were quoted as showing that the disease was transmissible from man to monkey

by inoculation, that it was transmissible from monkey to monkey, that the virus was not killed by glycerination and that it would pass the finest filter.

A list of past epidemics was given dating from 1881 to the present time. The disease was widely distributed over Europe and America, and occurred in Australia and probably in South Africa.

The factors common to all epidemics, viz. seasonal relationship, age-incidence, and mortality, were considered.

In the Swedish epidemic of 1905 Wickman showed that the school was a factor in the spread of the disease.

In the Massachusetts epidemic of 1909 it could not be shown that the school was a factor in the spread, but it was noticeable that of the 150 cases investigated, 62 were swimming or wading in water more or less contaminated by sewage. The question of animal infection was considered.

The curious nature of the infectivity of the disease was discussed in relation to the Steirmark epidemic, in which children living in the closest contact with the infected escaped infection, and on the other hand a child 30 kilometres removed from the nearest place was infected, and in whom all contact with an infected person could be excluded.

The epidemic occurrence of poliomyelitis in Great Britain was considered. The Upminster epidemic of 1908, the Bristol epidemic of 1909 were mentioned, and epidemics were reported in Carlisle, Maryport, Barrow-on-Furness, Melton Mowbray, Irthlingborough, Cerne Abbas and Tillicoultry in the summer of 1910.

From a series of forty-five cases collected at the Children's Hospital, Great Ormond Street, and at the National Hospital during the year 1904, in which the district from which the cases occurred and the month of onset were investigated, it was shown that the disease was widely distributed over London, and that the month of greatest incidence was August—corresponding to what has been shown in other epidemics.

The author concluded that since poliomyelitis has been shown to be a disease which was capable of being transmitted from person to person and was a serious detriment to health, it should be made notifiable. Isolation of the infected should diminish the incidence of the disease on the community.

The paper concluded with a list of some seventy-two epidemics of poliomyelitis up till 1910.

AUTHOR'S ABSTRACT.

Philadelphia Pediatric Society.

April the 11th, 1911, J. TORRANCE RUGH, M.D., President.

SYMPOSIUM UPON THE INFANT STOMACH.

Dr. ALFRED HAND, Jun., read a paper on the **Dietetic Management of Disorders of Gastric Digestion in Infants.** Dr. Hand referred to the importance of gastric digestion in infants as illustrated by the better prognosis in cases of malnutrition, in which there were no symptoms of gastric indigestion, as compared with those cases in which regurgitation and vomiting were present. After a brief discussion of the normal gastric juice

and its functions, it was shown that the influence of alkalies upon the digestion of milk depended upon the amount of alkali, small proportions delaying curdling of milk while large amounts prevented it entirely, so that the milk passed into the small intestine before a curd was formed. The diagnosis of the condition was easy except in infants a few weeks old, when hypertrophic stenosis of the pylorus must be borne in mind. In treatment it was important to find, and, if possible, remove the cause, for unless the cause was removed the condition would be persistent. But removal of the cause did not cure the condition necessarily, the complete cure being mainly dietetic, and often involving much time. Rules could not be laid down, for each patient must be studied individually. The percentage method was of great help.

Dr. J. CLAXTON GITTINGS described the **Shape and Position of the Infant's Stomach as seen in Frozen Sections**, exhibiting a series of bodies. From a study of hardened bodies of infants under one year of age, and from consideration of the embryonic and anatomical development of the abdomen and its contents, Dr. Gittings believed that the shape and position of the stomach of young infants varied considerably from those of adult life. His conclusions were as follows: (1) The stomach in healthy, well-nourished infants under one year occupies a more horizontal position than in adults. (2) The cardia is equally well fixed. (3) The pylorus lies nearer the mid-line and is less movable. (4) The stomach often lies entirely to the left of the mid-line; at most but 1-3 cm. of the vestibule (or antrum) and the pyloric canal lie to the right of the mid-line. (5) The most horizontal portion of the stomach is the vestibule. (6) The greater curvature for approximately one half of its length is more or less horizontal, and does not show any marked tendency to become vertical until it has passed well up under the left costal arch. (7) The lesser curvature is much more oblique than vertical. (8) The lowest pole of the stomach probably rarely descends lower than 2-4 cm. below the pylorus and probably never below the umbilicus. (9) The most important factors which determine the obliquity of the lesser curvature are; the breadth of the upper abdomen, the width and oblique lower border of the liver, and the large volume of the liver. (10) The most important factor which determines the position of the greater curvature is the more or less fixed, transverse or slightly convex position of the colon and mesocolon, which is induced by the crowding of the coils of small intestine and by the presence in the lower abdomen of viscera which belong, and later are contained in the cavity of the true pelvis. (11) The most important single factor in altering these conditions is the assumption of the erect position. (12) The shape and position of the stomach play an inconspicuous rôle in the causation of vomiting. Since the full or partly filled stomach is not tubular, the time-honoured explanation of the frequency of vomiting in sucklings is not applicable. (13) Defective valvular action at the cardiac orifice probably plays an equally unimportant rôle in the causation of vomiting. (14) X-ray examination is the only reliable means of determining the lower border of the stomach *in vivo*.

Dr. EDWARD B. HODGE described the **Surgery of the Infant Stomach**. He said that the field was narrow, owing to the influence of the age—under two years. That practically exempted the infant from many diseases and injuries and greatly increased the difficulty in eliciting signs and symptoms of those that did occur. Hence, injuries of the stomach, perforating gastric

and duodenal ulcers, etc., need only be mentioned. *Foreign bodies* in the infant stomach followed closely the symptomatology and treatment, usually conservative, seen in older children. The same might be said of *cicatricial contraction of the œsophagus*. Gastrostomy was of more value when performed earlier than was usually the case. *Congenital obstruction of the œsophagus* was very rare and generally fatal in spite of gastrostomy. *Infantile stenosis of the pylorus*: The surgeon should be called in consultation earlier in order to obtain a more favourable time for operation. Recent statistics of gastro-jejunostomy were much more favourable than those up to a few years ago. With Scudder, he believed the operation indicated on failure of efficient medical treatment in the cases of stenosis with pyloric tumour. If tumour was not present, the operator's individual experience would make him decide between gastro-jejunostomy and some form of pyloroplasty, preferably that of Nicoll. Scudder's* recent paper was of great interest on the questions of persistence of the pyloric tumour after operation, permanence of the stoma, and the practically normal fat and proteid metabolism found.

Dr. T. WOOD CLARKE, of Utica, N. Y., by invitation, read a paper on the **Value of Gastric Analysis in the Diagnosis of Digestive Disturbances of Infancy**. He said that all the functional activities of the adult stomach occurred in the infant, but in a lesser degree. Hydrochloric acid, pepsin and rennin were present from birth. Owing to the power of casein to absorb HCl, free acid was not found in the normal infant's stomach for at least one and a half hours after a milk feeding. The acidity steadily increased from birth. It also increased during digestion. Pepsin was always present in excess over the acid. The HCl in the child's stomach was almost exclusively in combination with casein. The estimation of the organically combined chlorides was of especial importance in analysis. Unfiltered contents must be used. A study of the findings of various authors showed the normal stomach contents of the infant to be as follows: One hour after milk the total acidity averaged from 20 to 28; combined chlorides, 11 to 19; free HCl, 0. One half hour after barley-water the total acidity averaged 9, the free HCl 2 to 4. One half hour after tea or lactose solution, total acidity 7; free HCl, 4. In marasmus cases there was hypo-acidity; chronic vomiting cases might show hypo-acidity, or hyper-acidity. In pyloro-spasm there was usually a very high acidity. Lime-water added to a feeding did not reduce the amount of HCl in the stomach as it stimulated to further secretion. Sodium citrate or oils reduced gastric acidity. Saline *per rectum* had been found to inhibit gastric secretion, and this had been used successfully in the treatment of pylorospasm. Test feeding and gastric analysis would probably prove a distinct aid in the diagnosis of the digestive disturbances of infancy. The work, however, was in its infancy and required further investigation and practical application. Uniformity of method was of the utmost importance in such investigations.

Dr. D. J. MILTON MILLER, of Atlantic City, N. J., in opening the discussion, said that of late years, in the infant as in the adult, they had come to look upon the stomach as taking but a minor part in the process of digestion, being mainly a reservoir for permitting the food to pass slowly into the intestine, where the major part of digestion was carried on and completed. Yet Dr. Miller agreed with Dr. Hand that they could not get along without the stomach: if it failed in acute or chronic disease they had lost their sheet-

* Scudder, C. L., 'Surg. Gyn. and Obstet.,' 1910, xi, p. 275.

anchor. Its usefulness became apparent when they considered that, in abnormal conditions of the organ, they were deprived of the means whereby the food was not only partially prepared for, but was also introduced slowly into the duodenum. Such researches as those of Dr. Gittings were of material value. Dr. Miller had long ago arrived at the conclusion that it was impossible to determine the position and shape of the infant's stomach by ordinary methods, such as filling with air, water, auscultatory percussion, etc. He believed that the only way to establish abnormal positions or dilatation of the stomach was by the X ray. Dr. Miller was sorry that Dr. Gittings had not given some information as to the capacity of the stomach. The usual method, measuring capacity after death, did not seem reliable. Yet it is an interesting fact that such measurements tallied very closely with the amounts determined by clinical observation. Dr. Miller said that they should familiarise themselves with the proper methods of gastric analysis, for determining the presence of HCl, etc. It had always been taught that from 25 to 50 per cent. of lime-water hastened the evacuation of the stomach. But gastric analyses showed that the opening of the pylorus was due to acid. Yet, in hyperacidity, emptying the stomach was delayed. Dr. Miller thought that hyperacidity was a very potent, if not the principal factor in causing the symptoms of pylorospasm or pyloric stenosis. Thus it seemed possible that varying degrees of acidity might cause varying degrees of obstruction; hence the practical value of gastric analysis in enabling one to detect and correct the earlier stages of what might develop into a serious affection. One might be able to distinguish the delayed motility due to fat from that due to hyperacidity and thus obtain valuable indications for treatment. Diet occupied a high, if not the principal place in the treatment of infantile gastric disorders. Careful examination of the fæces was also important. No set rules could be followed; every case must be judged for and by itself. Fat left the stomach last, delaying the emptying of the organ, and was a greater source of trouble than the proteids; hence the value of skim milk, butter-milk, whey, and even condensed milk in the gastric disorders of infants. Some very troublesome cases whose struggle to digest cow's milk had made their lives one long trail of misery, would often improve when they reached an age when they could digest other food than milk, which to them was a poison. The human breast was curative in many cases of difficult digestion in infants, even as old as one year. Finally, an infant should never be fed when its stomach was full or contained food. By passing the tube one could discover when the stomach was empty and should feed only when it was found empty.

Dr. CHARLES A. FIFE agreed with Dr. Hand that very few formulæ were needed. Modifications of less than one half present unnecessarily complicated the system of percentage feeding. It was becoming more and more evident that the dangers of high protein feeding had been exaggerated, and that many of the digestive disturbances formerly attributed to them were more likely due to the fats. This warranted a simplification of the methods. In fact, mere dilutions of whole milk or top milks with varying amounts of boiled water and the addition of sugar met most of the requirements. The questions of amount of food and of intervals of feeding received scanty attention that evening, though all of the members would probably admit that these two problems were fully as important as the mooted point of quality. How often in cases of indigestion, atonic dyspepsia, intestinal indigestion and athrepsia was there a history of overfeeding both as to quantity and quality? Pathologists continually reported that the stomachs in

the malnutrition cases were enormously dilated, thin-walled and apparently atrophic. It was not unreasonable to expect that overfeeding resulted in gastric dilatation, lessened motility, deranged gastric, intestinal, pancreatic and hepatic secretions, absorption of decomposition products, faulty metabolism and death. If physicians would more frequently check their formulæ by determining the caloric values they would probably see fewer atrophic infants. Dr. Fife asked Dr. Clarke if he had found organic acids in the stomach contents of babies with retarded gastric motility.

Dr. GITTINGS said that the so-called modern view as to the functions of the stomach seemed the more rational when one considered that the ducts of these most important organs, the pancreas and liver, emptied into the intestines, and when one compared the actual extent of secreting surface in the stomach with that in the upper intestine. The main function of the stomach would seem to be principally motor, whereby the food was thoroughly mixed, acidified and softened, to be delivered by the pylorus at proper intervals to the much more important digestive action exerted in the intestine. Symptoms originated from inability of the stomach to empty itself at proper intervals or in a proper manner. That the atrophic infant who retained his food had a better chance than his more unfortunate brother who rejected it did not prove the greater importance of gastric digestion as compared with gastric motility. Several years ago Dr. Gittings had started a series of investigations in the gastric contents in infancy, but from the varying results it seemed hopeless to draw any significant conclusions. That clinical indications for treatment could be obtained from the use of the stomach-tube, however, was more than sufficient justification for its much wider use.

Dr. A. H. DAVISSON said that he was strongly of the impression that a too high percentage of fat in their percentage feeding had been used and was a cause of indigestion; a high proteid could be well taken, more especially if the proteid was started low and run up quickly. He had had marked success in cases where he had used whole milk and a diluent only, starting the mixture very weak, but increasing the strength quickly so that a high proteid was soon reached with a fat percentage that was not much in excess of the proteid. For years he had used lime-water very little, and seldom as an addition to a modified milk.

Dr. CLIFFORD B. FARR said that he also had had satisfactory results from titrating unfiltered stomach contents, so long since recommended by Martius. He explained the manner in which the pylorus was kept closed in pylorospasm by the generally accepted hypothesis that the excess of acid which on the stomach side caused the pylorus to open, on the duodenal side caused it to close again and to remain closed until the alkaline reaction was restored.

Dr. HAND said that Dr. Clarke's results and his remarks on the strong affinity between casein and HCl bore out what Dr. Hand said with reference to the presence of curds in the stools when very low percentages of proteids were given; the relative excess of acid after the casein had been precipitated acted upon the curd to toughen it so that it was indigestible; increasing the strength of the mixture gave more casein to combine with the acid, the curds were softer, were digested easily, and none appeared in the stools.

Dr. GITTINGS added that investigations as to the capacity of the stomach had not been undertaken, in order that the members of the Society might see the position and shape of the stomach exactly as they existed at the time the bodies were injected.

Dr. CLARKE added that in those cases in which he had given lime-water mixtures, hard tough curds were found, and it was almost impossible to secure all of the stomach contents on this account. When milk and water were used, there were also curds but not nearly such tough ones. Lime-water did not accelerate the motility and did not increase the acidity. No trace of lactic acid was found in normal babies. Langstein had found peptones in the normal infant stomach. Dr. Clarke found a slight increase of peptone nitrogen if the test meal was examined at once; this increased tremendously if the contents were placed in the thermostat, showing proteolytic power but little proteolytic activity in the stomach. He also believed that the pylorus was kept closed by the amount of acid in the small intestine in cases of pylorospasm. He reiterated the statement that, with uniform methods, scientific results of some value should be obtained from gastric analysis in infants.

Société de Pédiatrie, Paris.

April the 25th, 1911. (Bulletin No. 4.)

Nageotte's Method of Counting Corpuscles, etc., in Cerebro-spinal Fluid.—MME. NAGEOTTE showed the advantages of a direct count without centrifugalisation. The fluid as soon as obtained was slightly tinted by stirring with a rod dipped in a solution of crystal violet and then poured into a special cell holding 100 or 50 cubic mm. and 1 or $\frac{1}{2}$ mm. in depth, covered with a slip, and examined with a weak object glass and strong eyepiece (Obj. C, oc. 4, Zeiss).

Emotional Jaundice.—M. MOURIQUAND reported a case in a girl, aged 18 years, who, having previously suffered from gastric symptoms, was attacked with jaundice twenty-four hours after seeing a woman knocked down by a tramcar.

The Value of Radiography in the Diagnosis of Hypertrophied Thymus.—MM. FERRAND and CHATELIN reported four cases to show that when typical, the shadows of the thymus and thoracic glands had respectively very marked characteristics. The thymic shadow was median and merged in the cardiac shadow, which it distorted and enlarged, especially above and to the left, bounded by sharp outline, of equal intensity in its whole extent. The shadows of the thoracic glands were less often and less definitely median, situated lower and of unequal intensity, accompanied by outlying shadows. They were then easily recognisable. When thymic hypertrophy and adenopathy co-existed correct interpretation was impossible, and radioscopy might then be as fallacious as clinical examination. In any case radioscopy only afforded information as regards the breadth of the thymus and not as regards to thickness. On the other hand, it was not always the largest thymus that caused trouble. It was also possible that the large vessels at the base of the heart, dilated by the pressure exercised on them by the thymus, might play some part in the size of the shadow (radiographs are figured in the 'Bulletin' in support of these views).

Aortic Dilatation.—MM. HALLÉ and SCHREIBER showed a boy, aged

5 years, whose heart presented the following peculiarities: On palpation there was a marked thrill at the base of the præcordial region; on auscultation there was heard over the same area a murmur obliterating the first sound of the heart. The right radial pulse was bounding, with exaggerated tension; the left, on the contrary, could be felt with difficulty. There were no signs of aortic insufficiency. The liver was small. On radioscopic examination the heart seemed to lie less obliquely than normal; there was also a deep shadow passing away to the left. Aortic pulsation was very distinctly seen. The case was undoubtedly one of dilatation of the aorta chiefly affecting the transverse portion of the arch. The ætiology was obscure; neither syphilis, paludism, nor rheumatism could be adduced. There was frequently no definite ætiology in the aortic dilatation of children. In a small number of cases the dilatation was distinctly connected with rheumatism, but syphilis was most frequently absent, as was proved in this case by the Wassermann reaction.

The Biuret Reaction in Febrile Infections.—M. TRIBOULET described his technique. A normal stool did not give this reaction. When positive it indicated either the presence of heterogeneous undigested albumin (enteric dyspepsia of certain infantile eczemas), or in infectious conditions an intestinal catarrh (tuberculous enteritis, typhoid fever, measles, pneumonia, etc.). The Biuret reaction was useful as a means of information as to the possibility of feeding patients suffering from infectious disorders or the necessity of submitting them to a rigorous diet.

Simple Chronic Infantile Nephritis.—M. MERKLEN reported a case of this kind. Albuminuria was noticed at the age of 2 years; it disappeared and reappeared several times until the age of 10, was entirely absent from 10 to 13, then there were several attacks with disturbance of the general health at the ages of 13, 15½, 17 and 18 years, when it finally disappeared under the influence of lactate of strontium. It was evidently a case of organic, not orthostatic, albuminuria.

The Influence of Thyroid Treatment on Body-weight and Growth in Rickets.—MM. VARIOT and PIRONNEAU reported five cases in which thyroid administration had a markedly beneficial effect. Of three cases who were below the average height by 8 to 10 cm., the first gained 3 cm. in two months, the second 3·5 cm. in the same time, and the third 4·5 cm. in seven weeks with an interval of two and a half months without treatment. In two other cases with diaphysial curving in which the deficiency of growth was 11 to 20 cm., the authors reduced it by 3·4 cm. in four months and 2 cm. in five weeks. The cases got thinner during the early part of the treatment but afterwards increased regularly in weight, which was, however, less favourably influenced than the height. Another point deserving attention was the good effect on the nervous system and especially on the cerebral activity.

VINCENT DICKINSON.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

At the meeting held on April 21st, 1911, under the Presidency of Dr. F. W. Pavy, at the Royal College of Physicians, it was decided to accept the

proposal of the Executive Committee fixing the date of the Congress to be held in London from August the 6th-12th, 1913.

Sir Thomas Barlow, K.C.V.O., will be President of the Congress, Dr. W. P. Herringham, 40, Wimpole Street, W., General Secretary, and Sir Dyce Duckworth and Mr. G. H. Makins, Treasurers.

All communications concerning the organisation of the Congress should be addressed to Prof. H. Burger, Vondelstraat 1, Amsterdam, or to the Bureau de la Commission Permanente des Congrès Internationaux de Médecine, Hugo de Grootstraat 10, The Hague.

THIRD INTERNATIONAL CONGRESS FOR THE STUDY AND PREVENTION OF INFANTILE MORTALITY.

THIS Congress will be held in Berlin from September the 11th to the 15th, 1911. Besides the presentation and discussion of scientific and practical papers, the programme will include an inspection of the measures taken in Berlin for the reduction of infantile mortality, as well as a visit to the International Hygiene Exhibition in Dresden, where a special department is being devoted to infant hygiene.

Abstracts from Current Literature.

Medicine.

Thyroidal megrim in childhood ('*Rev. d'Hyg. et de Méd. Inf.*,' 1911, x, p. 113).—**Léopold-Lévi** and **H. de Rothschild**, on an examination of ten cases, consider that megrim in childhood is due to the thyroid gland, and support their contention for the following reasons: (1) The ten cases narrated all showed immediate improvement from thyroid medication, which when abandoned resulted in reappearance of the attacks. Cure resulted when the treatment was continued for a sufficiently long time. (2) The children affected showed thyroidal instability, which manifested itself by nervousness, loss of appetite, constipation, retardation of development—physical and intellectual. There may be increase or decrease of growth of hair. In some the testicles were undeveloped. (3) There was no predominance in favour of the female sex. (4) It most frequently occurs between eleven and twelve years of age. (5) In most cases there is a similar hereditary taint, but in others the progenitors, instead of suffering from megrim, have shown symptoms of a neuro-arthritic diathesis. (6) It shows itself by unilateral headache (it may be bilateral), paroxysmal and intense, and may be accompanied by nausea, vomiting, and vertigo. (7) The attacks may be produced by various causes—hunger, fatigue, ingestion of certain articles of diet, emotions and the like. (8) The duration lasts from ten to twelve or even twenty-four hours. (9) Urticaria is far from rare; eczema and psoriasis have also been noted. (10) It is due to a pathological condition in the nucleus of the trigeminus. (11) Any cause that reduces the thyroidal

function and thus increases hypo-thyroidism, and thus excites the above centre, can produce an attack. (12) Seventy-five per cent. of cases of megrim in the adult are due to the thyroid gland.

F. R. B. ATKINSON.

Congenital goitre (*Med. Record*, 1911, 1, p. 323).—**Edward W. Peterson** records the case of a girl who, in January, 1905, when aged 5 weeks, was seen to have a swelling on the right side of her neck. The tumour, which filled the submaxillary space, and extended downwards nearly to the clavicle, was dissected out. Nine days afterwards a convulsion occurred, which was repeated on the thirteenth and fourteenth days. Tetany was present. A histological examination was made by Dr. Soderström, who reported that the tumour showed adenomatous overgrowth and colloid degeneration of the thyroid gland. As it was believed that all the thyroid had been removed thyroid extract was administered, and within twenty-four hours the tetany ceased. Since then, except for minor ills, the patient had been healthy.

FREDERICK LANGMEAD.

The parathyroids not responsible for tetany in children (*Ugesk. f. Læger*, Dec. 30, 1910. Abstr. *Journ. A.M.A.*).—**Jørgensen** criticises recent communications on the connection between the parathyroids and the development of tetany. He shows that Yanase's material does not sustain his assumption in regard to the causal rôle of the parathyroids, as lesions in these glands were discovered in only nine of the fifty children he examined. The other changes in the glands described were too trivial to be considered as having causal significance. In a case of tetany in Jørgensen's experience with fatal laryngo-spasm, the four parathyroid glands were found entirely normal even in 1000 sections under the microscope, and he cites other authors who have found the glands normal in fatal cases of tetany.

T. R. WHIPHAM.

Hypertrophy of the thymus gland in children, and sudden death (*La Semana Medica*, October 13, 1910).—**Negrotto** treats the question generally, and describes the following case: A female child, aged 2 years, was seen in the out-patient room for dyspnoea. Cyanosis fairly well marked, the lips blue, and the face livid. No signs of disease in the chest or throat. The examination had not lasted five minutes, and whilst they were just preparing for intubation the child expired. At the post-mortem examination the thymus gland was found to measure 9 cm. long, 3 cm. wide, and nearly 1 cm. thick. It weighed 36 gm. It covered the trachea, the large vessels at the base of the heart, the anterior surface of this organ, and reached to the anterior borders of both lungs.

M. D. EDER.

Sudden death following prophylactic dose of diphtheria antitoxin (*Boston Med. and Surg. Journ.*, 1911, 1, p. 503).—**S. F. McKeen**.—A girl, aged 17 years, well developed but of pasty complexion, received, a prophylactic dose of 500 units of antitoxin in her deltoid, as did also her mother and sister. Fifteen minutes after the injection death occurred with symptoms of collapse. There were no convulsions. The necropsy showed a persistent thymus weighing about 25 gm., the left lobe extending to the third costal cartilage, numerous lymph-nodes in the mesentery, swollen Peyer's patches, an enlarged spleen and small adenoids. The other organs were normal. The anatomical diagnosis was therefore status lymphaticus.

The following history was subsequently obtained: The father had died of heart disease. The mother suffered from hay fever and chronic rhinitis, but neither she nor the sister showed any ill-effects from their injection. The patient had suffered on and off from asthma, though not recently, and for some time had had slight watery rhinitis. J. D. ROLLESTON.

Supra-renal insufficiency in infectious disease (*Arch. de Méd. des Enf.*, 1911, xiv, p. 46).—J. Comby.—In the infectious diseases of children grave symptoms may suddenly occur, *e. g.* asthenia, vomiting, abdominal pain, feeble pulse, and cold extremities. These phenomena, which were once attributed to cardiac collapse, myocarditis, bulbar inhibition, or neuritis of the vagus, are now regarded as due to supra-renal insufficiency. Post mortem lesions of the supra-renals have been found, especially hæmorrhages. As prophylactic and curative treatment the oral or subcutaneous administration of adrenalin is recommended. J. D. ROLLESTON.

Supra-renal tumours and precocity (*Liverpool Med.-Chir. Journ.*, 1911, xxxi, p. 116).—E. E. Glynn and R. C. Dun record a case in a child, aged 5 years, whose appearance was that of a girl about the age of puberty. She was tall, fat, and flabby, with a profuse growth of hair on the scalp, upper lip, pubes and back. The abdomen was enlarged, chiefly on the right side, where a tumour could be felt. No abnormal pigmentation was noted. Death, preceded by convulsions, occurred suddenly four days after admission to hospital. At the necropsy the right supra-renal was found to be replaced by an irregularly lobulated tumour weighing 2 lb. 12 oz. There were no metastases. Microscopically the most striking feature was the variation in size and shape of the cells, and, to a much less extent, the variation in the number of small vessels and the amount of fine reticulum. J. D. ROLLESTON.

Hyperfunctioning of ovaries or testicles as a cause of rickets (*Zentralb. f. Gyn.*, Jan. 21, 1911. *Abstr. 'Journ. A.M.A.'*)—Stocker implanted in a two-weeks' calf the ovaries from a healthy cow that had calved once. In a few weeks the calf developed a picture resembling in every respect that of rachitis, while the control calf under identical conditions otherwise was strong and lively. These findings and experimental research suggest that rachitis is due to excessive functioning of the ovaries or testicles, and that treatment on these lines might prove effective. It has certainly displayed efficacy, he says, in the one clinical case in which he has applied it to date. The patient was a girl, aged 17 years, with pronounced rachitis and pains in the bones. She was given the milk of a castrated cow, and in a few days the pains disappeared, and she began to increase in stature. T. R. WHIPHAM.

Malarial infantilism (*Rev. de Méd.*, 1910, xxx, p. 802).—H. de Brun, after twenty-five years' residence in Syria, thinks that he is justified in regarding malaria as one of the chief causes of infantilism. In proof of this he describes in detail forty cases. All had had malaria in infancy, and the majority still had attacks of intermittent fever on admission to hospital. In thirty-eight the spleen was enlarged; in the two in which it was almost normal there were intense anæmia and febrile attacks which were cured by quinine. The patients showed other visceral or blood changes characteristic of malaria, *e. g.* hypertrophic, or more rarely atrophic, cirrhosis of the liver,

myocarditis, nephritis, apical pneumonia and anæmia. Plasmodia were found in every case in which the blood was examined. All the patients were natives of malarious localities. They were all remarkable for their short stature, small size of their genitals, and absence of any sign of sexual power. Most of them presented an enormous abdomen, which formed a striking contrast to their slender limbs. In the majority the intelligence was decidedly below the average. Some might be regarded as examples of Lorain's and others of Brissaud's varieties of infantilism, but none were perfect models of either type. In answer to the question as to how malaria produces infantilism, the author replies that it is an acquired condition and not a congenital defect, and is due to an early infection with malaria which involves all the organs concerned with growth, especially the testes, thyroid, and probably also the hypophysis and suprarenals.

J. D. ROLLESTON.

Otology, Rhinology, and Laryngology.

The climatic indications of Egypt in otology and laryngology ('*New York Med. Record*,' 1911, 1, p. 436).—**Goldmann** recommends the climate of Egypt in cases of middle ear suppuration, sinus suppuration, ozæna, and adenoids.

MACLEOD YEARSLEY.

The treatment of 100 cases of suppurative otitis media (scarlatinal) by means of bacterial vaccines (bacterins) ('*New York Med. Journ.*,' 1911, 1, p. 755).—**J. A. Kolmer** and **P. G. Weston** report upon cases in the Philadelphia Hospital for Contagious Diseases. The best time for commencing the treatment was usually from the eighth to the sixteenth day after onset of discharge. The organisms were *Staphylococcus aureus* and *albus*, *Streptococcus pyogenes*, *Bacillus pyocyaneus*, and a pseudo-diphtheria (non-virulent) bacillus (in 57 per cent. of cases). Autogenous vaccines were used in all but one case. Mixed vaccines were never used, but if two organisms were found they were isolated, and a vaccine prepared from each. Initial dose was small, and repeated in five to eight days. Frequency of dose was determined by the clinical course. The only other treatment used was cleansing of the meatus to ensure drainage. By comparison with cases treated in the usual manner, the vaccine method cured 21·66 per cent. in from one to thirty days, as compared with 7·46 per cent. by other methods. Continued high fever, acute nephritis, toxæmia, and other intercurrent infections were deemed contra-indications.

MACLEOD YEARSLEY.

The treatment of otitis media purulenta and mastoiditis in infants ('*New York Med. Journ.*,' 1911, 1, p. 271).—**John Randolph-Page** emphasises the great importance of attending to suppurating ears in infants. If early recognised and promptly treated an operation on the mastoid can often be avoided. Of eighty-seven cases of acute purulent otitis media seen in a year at the Babies' Hospital, New York, only three were operated on for mastoiditis. Throughout the winter the ears are examined in every case, and the red and bulging membranes are incised and treated with installations of hydrogen peroxide and boric acid irrigations three- or four-hourly from the beginning. Mastoiditis can in many instances be prevented by such means, but early diagnosis is necessary, and this can only be accomplished by the routine examination of the ears of all sick

children. If mastoiditis has developed, the question of attacking it at once before the infant's vitality has been lowered by septic absorption must be seriously considered. The persistence of a profuse discharge after careful treatment has been pursued for a reasonable time warrants the serious consideration of the advisability of a post-aural operation. A high mortality after operations on the mastoid is more often due to neglect of the ear condition before operation than it is to the operation itself.

J. ALLAN.

Rosenmüller's fossa and the middle ear (*The Hospital*, 1911, XLIX, p. 579).—**Macleod Yearsley** gives a short clinical lecture drawing attention to the importance of the lateral recess of the naso-pharynx in diseases of the middle ear. The conditions which may occur in Rosenmüller's fossa are pointed out: (1) The occurrence of "soft" adenoid masses, keeping up chronic inflammation in the Eustachian tubes, and mechanically interfering with the action of the tubal muscles and the venous return from the tympanum; (2) the presence of bands and adhesions; (3) the presence of small, irregular, scattered masses of adenoid tissue.

AUTHOR'S ABSTRACT.

The prophylaxis of deafness in schools (*L'Echo Méd. du Nord.*, 1911, xv, p. 185).—**Gaudier** and **Lien**.—Apart from central or congenital deafness, 99 per cent. of the cases are due to nose and throat troubles. In the former, nasal stenosis hinders the ventilation behind and favours the stasis of mucus there, producing tonsillar enlargement and catarrh of the cavity of the tympanum. This may heal rapidly if the organisms are benign, more slowly if there are complications, or if the pathological agent is very virulent, such as scarlet fever, erysipelas, etc. The first may cause only a passing deafness, but the last one may produce an intermittent deafness which may become permanent. About 56 per cent. of school-children have normal hearing, 10 per cent. are markedly deaf, and 33 per cent. show some defect of hearing. It is found that the places taken by scholars have a definitely inverse proportion to their deafness. It is of the greatest importance for children to use a handkerchief properly, and this should, if possible, be of paper, which can be burned after use; nasal respiration should be encouraged, and all impediments to it removed, if necessary by operation.

J. PORTER PARKINSON.

Nasal diphtheria in infants (*Med. Record*, 1910, II, p. 926).—**G. D. Scott** considers this condition to be not uncommon, but often overlooked. Cause, Klebs-Loeffler bacillus; predisposing factors, rachitis and malnutrition. Absolute diagnosis is only possible by means of the microscope, and nasal diphtheria is never absolutely pure. The condition may be primary or secondary, and passes through three stages—catarrhal, fibrinous, and diphtheritic catarrhal—the last of which might persist for weeks, owing no doubt to the implantation of the specific organism in the accessory sinuses. The nasal type of diphtheria may be very contagious, hence isolation is of paramount importance, together with immunisation of other members of the family with antitoxin. In treatment the author strongly opposes nasal douches, but inserts pledgets of wool moistened with warm raw pineapple juice in the nostrils. He also describes the best method of using antitoxin.

MACLEOD YEARSLEY.

The throat specialist and preventive medicine (*'Charlotte Med. Journ.,'* 1911, LXII, p. 80).—**Davis** emphasises the following points: (1) That due importance by the throat specialist is not given to the prophylactic feature of throat work in the early life of the individual, and that, therefore, it has not the proper recognition from the profession as a whole and the laity. (2) That the pathological processes about the throat and their effects are strong predisposing factors in the cause of all the air-borne diseases. (3) That adenoids are responsible for mouth-breathing is a prime factor in the inception of contagious and infectious diseases, and in the making of pathological conditions in the faucial region. (4) That the examination for, and removal of, adenoid tissue during the first year of life is an important preventative measure. (5) That an endeavour should be made to preserve the faucial tonsil in its normal state for its function as a protector against microbic invasion. This, by thorough local treatment for each infection, and a consideration of the factors affecting its health as next mentioned. (6) That in keeping with its endeavours in the interest of preventive medicine it is the duty of the medical profession to emphasise before health boards, school boards, asylums, parents, and in every avenue reaching the life of the child, the importance of the following simple methods: (a) Providing prompt correction for mouth-breathing (in infancy if it exists); (b) giving daily care to teeth and gums, and daily use of proper antiseptic mouth-wash; (c) abundance of outside air in sleeping-room, regardless of season and age.

MACLEOD YEARSLEY.

The tonsil (*'Charlotte Med. Journ.,'* 1911, LXII, p. 1).—**J. A. White**.—Has it any function? Is it a menace to the organism as a focus of infection? Is the present holocaust of tonsil necessary? What is the best method of removal when operation is clearly indicated? The writer asks these questions and tries to answer them, the first two in the affirmative apparently. As regards the third, he does not seem to differ from recognised surgical procedure. The author is wrong in stating that enucleation is rarely done in England. Careful reading of the paper does not enable one to discover what is advised as the best method of removal.

MACLEOD YEARSLEY.

Functions and utility of the tonsil (*'La Policlinique,'* November 1, 1910. *Abstr. in 'Amer. Journ. Obstet. and Dis. of Women and Children'*).—**Gabriel Hicguet** considers that previous theories have failed in scientific support. The normal tonsil gradually retrogresses, and finally becomes rudimentary. Any enlargement is due to repeated attacks of inflammation, and thus renders the tonsil of doubtful utility. The simplest conception gives no function to the tonsil because it inevitably atrophies when normal. The author contends that there are but two theories of possible value: first, that it is an organ of defence applicable to the healthy organ; second, that it is a cause of infection applicable to the pathological organ.

J. HOWELL EVANS.

An unusual case of disturbance of equilibrium occurring as a reflex manifestation of hypertrophied tonsils and adenoids (*'Charlotte Med. Journ.,'* 1911, LXII, p. 153).—**R. B. Hayes** describes this case, that of an Indian boy, aged 3½ years. He was always falling about (in no special direction) and hurting himself, dropping things, and the falls appeared to be always preceded by hiccough. Beyond tonsils and adenoids

nothing abnormal could be found. The removal of the tonsils and adenoids was followed by immediate improvement after ten days.

MACLEOD YEARSLEY.

The tuberculous tonsil (*Journ. of Amer. Med. Assoc.*, 1910, II, p. 1520).—**R. Levy** claims that tuberculosis of the tonsils occurs more frequently than previously recognised, owing to newer methods of investigation. Clinically, tuberculosis of the pharynx with or without tonsillar involvement is among the rarer manifestations of tubercle. Clinical tuberculosis of the tonsils and that determined histologically present marked differences. There is absence of symptoms in the latter and definite subjective and objective manifestations in the former. The diagnosis of true tuberculosis of the tonsils is more satisfactory when based on both clinical and histological findings. The clinical form is a very grave condition and is probably not curable. Extirpation of the tonsil is rarely indicated in tonsillar tuberculosis.

MACLEOD YEARSLEY.

Vincent's angina (*Mitteil. aus den Hamburg. Staatskrank.-anstalten*, 1910, XI, p. 69).—**F. Reiche** has seen fifty-three cases, and here records short histories of twenty-seven. Only three were under fifteen years, the rest were in adults. Thirty-three per cent. occurred between July and September; four had relapses. In all the cases the characteristic organisms predominated, and diphtheria bacilli were absent. Many had constitutional disturbance manifested by leucocytosis, enlargement of the spleen, and in a few cases by nephritis, palatal and ciliary paralysis, and peripheral palsies. A unique fatal case in a boy, aged 9 years, in whom death in the fourth week was due to myocarditis, is recorded. Repeated bacteriological examination showed an absence of diphtheria bacilli. Histological examination of the kidneys, liver, and heart-muscle showed extensive fatty infiltration of the parenchyma. Interstitial changes were absent. J. D. ROLLESTON.

Vincent's angina (*Journ. Amer. Med. Assoc.*, 1910, II, p. 1510).—**F. Fraley** records an epidemic of nine cases among patients aged from three to fifteen years which occurred in an institution which was constantly receiving children from the worst possible hygienic surroundings. None of the children had any fever or other symptoms of illness. The infection was probably conveyed by a tumbler kept by a water cooler from which the children drank when thirsty. In some of the cases the characteristic organisms were found where the gums were spongy or bled easily without the production of either exudation or ulceration. J. D. ROLLESTON.

Collar-stud in œsophagus (*New York Med. Journ.*, 1910, II, p. 1210).—**H. Arrowsmith**.—A girl, aged 3 years, convalescing from infantile paralysis, swallowed a large collar-stud which her nurse had given her to play with. She was immediately seized with dyspnœa, dysphagia, and regurgitation of fluids through the nose. The urgent symptoms subsided in a few days, and the parents assumed that the stud had passed into the stomach, but the child still had severe cough, with frequent choking spells, and became weak and emaciated. These symptoms were regarded as the result of her recent severe illness, and she was treated with tonics and sent into the country. Ten months after swallowing the stud it was located by the X-rays at the level of the first rib. Death took place during the operation before anæsthesia was complete. Post mortem, it was found that the

lower and larger disc had lacerated the trachea, and that the part still in the œsophagus was surrounded by a tough, encysting wall. The case is reported to show that extraction of the stud would have been easy any time within a few days or weeks of its ingestion. J. D. ROLLESTON.

Congenital inspiratory laryngeal stridor (*'Gazz. Med. Ital., February,' 1911, No. 6, p. 53*).—**Shukowski** says that this form of stridor was, until a few years back, confused with other forms associated with compression of the larynx. It begins as a rule immediately after birth, rarely after a few days, and has a special musical tone; expiration is silent. The general health is unaffected and there is no cyanosis; the thorax becomes ultimately deformed and bird-shaped. The stridor gradually diminishes and disappears after one or two years. Heubner, however, thinks it sometimes accountable for sudden death in infants. The voice is normal and there is no cough. During sleep the stridor diminishes and may disappear. Physical examination reveals nothing abnormal. Ordinary laryngo-spasm is differentiated by its beginning suddenly in a child of about three months, especially if suffering from rickets or convulsions. As to cause, Thomson believes there is a disturbance of the co-ordinating centre of respiration which Semon and Horsley localise in the neighbourhood of the thalamus. Robertson supposes a paralysis of the laryngeal muscles, Trunupp, a functional disturbance of the same. Other observers attribute a mechanical causation. The author noticed that in two cases under his care there was microglossia with microcheilia and deficient development of jaw, so that the tongue occupied almost the whole of the back part of the mouth and caused the stridor by thus pressing on the epiglottis. In other cases there existed various mechanical causes—cysts, abscesses, tumours, and in one case a syphilitic lesion of the epiglottis. VINCENT DICKINSON.

Asphyxia caused by ascaris lumbricoides (*'Nord. med. Ark., 1910, Afd. 11, Nr. 8, p. 26*).—**C. Hansted**.—A girl, aged $3\frac{1}{2}$ years, suddenly had a dyspnœal attack, for which her mother gave her some warm milk. The child at once vomited, and a living ascaris was found in the vomit. Temporary relief ensued, but a few hours later another dyspnœal attack occurred, and was not relieved by tracheotomy. At the necropsy a dead ascaris, 15 cm. long, was found at the bifurcation of the trachea. J. D. ROLLESTON.

Reviews.

LA STÉNOSE DU PYLORE, PAR HYPERTROPHIE MUSCULAIRE CHEZ LES NOURRISSONS. By PIERRE FREDET and LOUIS GUILLEMOT. Figs. 15, pp. 83. Imprimerie et Librairie Edouard Privat. Toulouse: 1910.

IN this report to the Sixth Congress of Gynæcology, Obstetrics and Diseases of Children, held at Toulouse in September, 1910, Guillemot and

Fredet sum up the position of this subject from the medical and surgical aspects. The authors have paid great attention to the bibliography, which occupies eighteen pages, or rather more than one fifth of the reprint, and have given full credit to British and American writers. The collection of 598 cases made by Ibrahim in 1908 is also utilised, and among other points shows that the vast majority of the cases occur in England, the United States of America, and Germany, and that it is rare in the Latin and Slavonic races. The authors adopt the explanation of a congenital malformation and reject the hypothesis of spasm. This monograph, the price of which is not given, is a most valuable source of reference.

H. D. R.

THE OCCURRENCE OF INFANTILE PARALYSIS IN MASSACHUSETTS IN 1908; INFANTILE PARALYSIS IN MASSACHUSETTS IN 1909.

THESE are the reports of various authors to the Massachusetts State Board of Health, which have already appeared in the 'Boston Medical and Surgical Journal,' 1909 and 1910. They are founded upon the observations of the physicians in that State, who notified the particulars of their cases on forms provided by the Board. By this excellent method of co-operation much valuable information was obtained, most of which is already well known.

The first report, dealing with the epidemic of 1908, is the work of Drs. R. W. Lovett and H. C. Emerson, and after the careful study of much interesting matter reaches the conclusions that the disease is bacterial in origin, and at the most mildly contagious. The data upon which the latter opinion is formed are most carefully verified, although drawn from a comparatively small outbreak. The report also suggests that the harmful agent enters the digestive tract in most instances, but finds no evidence to show whether the infection is carried to the patient directly or by means of food.

The report on the epidemic of 1909 is much longer, and is written by several authors. It deals in great detail with various localised outbreaks of acute poliomyelitis, and has sections on the treatment and early diagnosis of the disease. A careful summary is also given of the recent experimental work, the results of which are already widely known.

The distribution of the disease in infected areas is examined most thoroughly, but no very definite conclusions can be drawn from the facts ascertained. The relationship of the affected areas to those in which the disease had been prevalent in the previous year, the size of the towns, the sanitary conditions, the temperature and rain-fall records and other points are carefully considered. In many instances it was noted that the disease appeared to follow the distribution of the rivers, and it was thought that bathing might be a possible source of infection, a point raised by Macalister in a very suggestive paper in this JOURNAL in 1905. Unfortunately no evidence is given by which it can be proved that these occurrences were more than could be accounted for by the consideration of the distribution of the population and the seasonal incidence of the infection.

There is much in these reports which must become of great value as our knowledge of the disease increases, and the authors and the authorities responsible for their publication are to be congratulated upon their painstaking investigations.

R. M.

THE MEDICAL ANNUAL: A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX, 1911. Twenty-ninth year. Bristol: John Wright & Sons, Ltd. Price 8s. 6d. net.

THE present volume maintains the high level of excellence which preceding issues have led us to expect. The various subdivisions of pædiatrics are dealt with by well-known specialists. The articles on acute infectious diseases have been written by Dr. Goodall, whose criticism of the inoculation treatment of scarlet fever will be read with interest. Under the heading of anaphylaxis the same writer contests the view expressed by Miller and Root that sudden death after anti-toxin is due to the status lymphaticus and not to the serum. Dr. Goodall declares that "there does not appear to be any strong evidence that the status lymphaticus is concerned in bringing about the result in a large proportion of the cases, if in any at all."

The important subject of infant-feeding is dealt with by Prof. G. F. Still, who also reviews the recent work on cholera, infantile diarrhœa, pertussis, and worms.

In the remarkably full section on diseases of the heart by Dr. Carey Coombs, ample recognition is given to the late Dr. George Carpenter, whose valuable Wightman lecture on "Congenital Malformations of the Heart," delivered before the Royal Society of Medicine, was published in this JOURNAL in 1909.

On p. 363 we have detected a small slip. It is not accurate to say that the "signe de Musset" was described by Alfred de Musset, who observed it in his own case. The term was first employed more than forty years after the death of the author of 'Comedies et Proverbes' by Delpeuch, to whom it had been suggested by a passage in the poet's biography written by his brother, Paul de Musset.

Recent work on infantile paralysis is ably summarised by Dr. Purves Stewart and Mr. Keith Monsarrat from the medical and surgical aspects respectively.

In the section on rheumatism Dr. R. Hutchison subscribes to Schichhold's view that the presence of septic foci in the tonsils is largely responsible for the production and maintenance of acute rheumatism, and declares that the removal of tonsils and adenoids in children who have suffered from acute rheumatism affords considerable protection against subsequent returns of the disease.

Numerous excellent illustrations accompany the text, but the close resemblance of the photograph of xanthelasma planum to one of hæmorrhagic smallpox makes it regrettable that a coloured drawing had not been substituted.

While offering our hearty congratulations to all concerned in the production of this admirable work, we would suggest that its value would be still further increased if the practice were more generally adopted by contributors of inserting the volume and page rather than the day of the month in the list of references at the end of each article, as reference to the original paper in the bound volume of the periodical is thereby considerably facilitated.

J. D. R.

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Original Articles.

KERATOMALACIA.*

By SYDNEY STEPHENSON, D.O.Oxon.,

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FEW diseases of the eye present a more characteristic appearance than that known as "keratomalacia."

The disease is tolerably common in some parts of the world. In Russia it is even frequent towards the end of the great Lenten Fast and after the fortnight's fast in August. The mothers lose their milk, and in consequence the babies' eyes suffer. It is also common among the half-starved negro children in South America, where it is called "ophthalmia Braziliana," a name given to it by Gama Lobo.(1) According to Kollock (2) the malady is common among the young negro children of Charleston, the largest city of South Carolina, where more than one half of the inhabitants are coloured. The disease was never seen in the whites. In Kollock's experience, when the cornea in these cases suppurated, treatment availed little, and the patient soon died. Herbert (3) and Yarr (4) tell us that the disease is common in the native quarter of such great towns as Bombay, Calcutta, and Hong Kong. Lastly, in Japan this peculiar disease of children is well known, where it goes

* Delivered on May the 18th, 1911, in the Course of Ophthalmology in the University of Oxford.

by the name of "Hikan." It appears epidemically in that country during the months July to September, when diarrhœa is rife (Mori [5]).

A similar condition is found, although it is not common, in England, exclusively in babies whose nutrition is at a dangerously low ebb. The disease was described in 1827 by Dr. Joseph Brown, of Sunderland ('Edin. Journ. of Med. Science,' vol. iii, p. 218). It is probably more familiar to physicians attached to children's hospitals than to ophthalmic surgeons, for the subjects of keratomalacia are often dangerously ill, and on that account are more likely to be taken for advice to the former institutions. A few cases, however, have been published in this country by Sir William Bowman, Holmes Spicer, Tatham Thompson, A. W. Ormond, and myself.

From the figures at my disposal (6) I estimate that keratomalacia is encountered in about 1 per 1000 of the eye cases attending a children's hospital in the poorer part of London.

It is essentially a disease of early infancy. The average of my own thirty-one cases was 4·54 months.

I have never seen the disease except in the children of the poor.

Any disproportion between the sexes, as shown by the figures given by Knaebel (7), Thalberg (8), and Braunschweig (9), is almost certainly fortuitous. Of my own cases, thirty-one in number, 41 per cent. were in males, 54 per cent. in females, and in 3 per cent. the sex was not noted.

Von Graefe (10), who was familiar with the disease in Berlin, attributed keratomalacia in infants to encephalitis. Indeed, the changes believed to be those of encephalitis were found by Prof. Klebs in two of von Graefe's patients, aged 3 and 4 months respectively. This view was adopted by other ophthalmologists, notably by Hirschberg (11). But further pathological work proved that the so-called "diffuse infantile encephalitis" of Virchow was non-existent, and that the granulo-fatty corpuscles, once regarded as evidences of encephalitis, can be found in the brain of all little children (Jastrowitz [12]). The encephalitic theory, therefore, was generally abandoned.

Before long another hypothesis occupied the ground, namely, that keratomalacia was the outward and visible sign of a generalised bacterial invasion. Some of the cases which were reported appeared to support this view. One of the most important of these was by Leber and Wagenmann (13). A male baby, aged 10 days, manifested necrosis of the ocular conjunctiva around the cornea of one eye. He

died a few hours after he was first seen. The autopsy failed to reveal any cause adequate for death, and, in especial, there was no evidence of encephalitis. Bacteriological investigation, however, brought to light the fact that a multiple streptococcal invasion existed. Streptococcal chains were found in the vessels of the tissues of the eye and in the other organs examined, which included the kidneys, the suprarenal bodies, and the skin. By Leber and Wagenmann this bacterial invasion was believed to be responsible both for the ocular affection and for the lethal issue of the case. In this connection a case by J. E. Weeks (14), of New York, may be quoted: An emaciated and bottle-fed baby, aged 8 months, suffered from xerosis of the conjunctiva, along with ulceration of the corneæ. Death from exhaustion. The autopsy showed a fatty liver and enlarged spleen and kidneys. The pelvis of the right kidney was filled with flocculent pus, while its lining mucous membrane was coated with a frothy and whitish exudate, resembling to some extent the secretion observed on the conjunctiva during life. The xerosis bacillus was present in conjunctiva, pelvis of the kidney, liver, spleen, and pancreas.

The theory of endogenous infection, as implied by the foregoing cases, may, in my opinion, be put aside without hesitation. The experiences of Baumgarten and of Braunschweig prove that, as a rule, micro-organisms can be grown neither from the blood during life nor from the viscera after death of children affected with keratomalacia. The whole of the available evidence goes to show that the determining cause of the corneal ulceration is to be found in exogenous infection with this or that pyogenic micro-organism, while its predisposing cause is the lowered vitality of the patient.

On a general inquiry into the causes of keratomalacia we are at once struck by the fact that the disease hardly ever occurs in breast-fed babies. Of Knaebel's eighteen cases three only, or 16.6 per cent., had been nursed by their mothers. Of my own cases, again, two alone, or 6.46 per cent., were entirely breast-fed.

Without exception the victims of this pitiful disease suffer from marasmus, either of a symptomatic or idiopathic character. The causes of the former include tuberculosis, syphilis, and chronic diarrhoea and vomiting, the familiar "D. and V." of a children's hospital. The name "marasmus" or "athrepsia," however, may be more properly applied to the idiopathic group, where, as well known, neither examination during life nor dissection after death enables us to ascertain the cause of the malassimilation.

In London there is a distinct connection between keratomalacia, on the one hand, and the disease variously known as "epidemic

enteritis," "zymotic enteritis," "ileo-colitis," or "epidemic diarrhœa," on the other. By contrasting the seasonal curves of the two ailments it can be shown that June, July, August and September represent the greatest mortality from "epidemic diarrhœa" and the greatest incidence of keratomalacia. Indeed, in the metropolis keratomalacia has a distinct seasonal incidence. This is well borne out by the fact that about three quarters of my cases have been met with in the six warm months (May to October) and only about one quarter during the six colder months (November to April).

Although "epidemic diarrhœa" is the outstanding cause, yet it must not be forgotten that there are others, of which the most important are—(1) syphilis, (2) tuberculosis, and (3) marasmus, pure and simple. A few words may be usefully devoted to the discussion of each of these in turn.

The syphilitic origin of keratomalacia has been insisted on by several writers, especially by Horner (1882), Biber (1890), Zirm (1895), Peltesohn (1898), and Terrien (1905). Horner's testimony (15) is particularly interesting. He met with cases of keratomalacia which recovered and which later developed true parenchymatous keratitis, and he also saw in the same family an infant succumb to keratomalacia and athrepsia, while a brother presented the classical signs of Hutchinson's interstitial keratitis. Wicherkiewicz (17), indeed, if I understand him aright, denies the ability of any factor other than hereditary syphilis to cause the disease. The discovery by myself (18) of the *Spirochæta pallida* in scrapings from the diseased cornea constitutes the scientific proof of the reality of syphilis as a factor in the causation of some cases of keratomalacia.

Of my thirty-one cases of keratomalacia, syphilis was diagnosed clinically in seven, or in 22·58 per cent. The Wassermann reaction was not available when most of my figures were collected.

My figures are small, but so far as they go they indicate that tuberculosis is an important cause of keratomalacia in infants. It existed in six, or 19·36 per cent. of my cases, the diagnosis being made during life in three and after death in three of the children. It is to be noted in passing that of the twelve fatal cases tubercle was present in one quarter. The disease was of the generalised type, as is usual in children of so tender an age, with pulmonary or meningeal manifestations.

Marasmus, pure and simple, accounted for seven, or 22·58 per cent. of my thirty-one cases. It is of practical importance to remember that at such an early age there are many points of

resemblance between marasmus on the one hand and tuberculosis on the other. Progressive wasting, pallor, and loss of strength are features shared by both affections. Many a case assumed to be one of marasmus has been found upon the dissecting-room table to be one of tuberculosis.

Finally, in two of the cases, or 6.45 per cent., the cause of the corneal mischief remained altogether obscure.

When all is said and done, we shall not be far wrong if we assume that destruction of the cornea may supervene, other things being equal, in any baby whose nutrition is seriously impaired, whether as the result of disease, semi-starvation, or, for that matter, from any cause whatsoever.

That the condition responsible for keratomalacia often ends fatally is, of course, unquestioned. It is, however, not correct to speak, as some writers have done, as if a lethal termination was inevitable. A glance at the figures to be found in the literature will prove this point. 'Of Knaebel's eighteen cases, exactly one half died before they reached the age of six months. In my own series of thirty-one cases the mortality amounted to thirteen, or 41.93 per cent. This number is probably below the mark, since some of my patients may have died soon after they passed from under my personal observation. The factors that have probably most to do with the issue, lethal or otherwise, are: (1) The age of the child—the older the patient the better is his chance of recovery; and (2) the nature of the underlying disorder, since, in my experience, syphilitic and marantic cases justify a better prognosis than those associated with tuberculosis.

Everybody knows that babies affected with keratomalacia are apt to die from broncho-pneumonia. That condition was found, either during life or after death, in more than one third of my fatal cases, the exact proportion being 38.46 per cent. In some instances the pulmonary condition is in the nature of hypostatic pneumonia, which is frequently the cause of death in cases of marasmus. In another and perhaps a larger contingent, however, I cannot resist a suspicion that the broncho-pneumonia merely represents the outstanding symptom of a generalised tuberculosis which has escaped (as it may readily do) recognition.

The clinical features of a marked case of keratomalacia may be described as follows:

The baby, who is obviously wasted and very ill, lies placidly in his mother's arms, and although he may whine at intervals, yet he shows few signs that he is suffering from a severe and destructive disease of the eyes. He may present the "old-mannish" look so

characteristic of advanced cases of marasmus. His skin is lax and withered, so that when pinched up between the fingers it retains for some time its unaccustomed form. He is white. His temperature is subnormal. There is usually a tendency to diarrhoea and vomiting.

The eyelids, soft and supple, are not reddened or swollen. They can be opened with scarcely any protest on the part of the baby. Few things, indeed, are more striking in keratomalacia than the paucity of external inflammatory changes. On separating the eyelids, however, the gravity of the condition is at once apparent. One or usually both corneæ may be involved in an ashen-hued slough, through which the iris may be seen to have prolapsed here and there. But there is neither lacrimation, chemosis, nor congestion of the eyeball—in a word, none of the appearances that we should naturally expect to find associated with sloughing cornea. To employ the graphic words of J. N. Fischer (19) (one of the earlier writers on the disease), the eyes “have a corpse-like appearance in the still living body.”

One peculiar feature (first described by von Graefe), namely, xerosis, calls for a word of separate mention, although it is not essential to the diagnosis of keratomalacia. It was noted in 41·93 per cent. of my own cases. When present in little children it is almost pathognomonic of keratomalacia. This change usually takes the form of a small, triangular, greasy-looking white patch situated in the ocular conjunctiva on the inner or the outer side of the cornea. In several of my own cases, however, it lay below the cornea, and I have more than once seen it encroach upon the cornea itself. Sometimes the cornea, or a considerable part of its circumference, is encircled by a narrow, slightly raised, glistening white line of xerosis occupying the position of the limbus, the conjunctiva in the neighbourhood of which is often lustreless, dry, and thrown into wrinkles. Once alone have I seen the xerotic changes affect the palpebral conjunctiva.

The changes of xerosis are apparently due to the lodgment and multiplication *in situ* of the saprophytic xerosis bacillus, together with the local precipitation of the Meibomian secretion (Reymond).

The eyes often look dry, and are more or less insensitive to stimuli, and in severe cases a characteristic feature is that the baby scarcely resents attempts to examine his eyes, or, at most, moans feebly and piteously during the necessary manipulations. This alone should arouse suspicion as to the nature of the case, suggest extreme care in handling the eyes, and, lastly, prompt a bad prognosis.

If the baby live long enough symptoms of panophthalmitis may supervene, when the entire clinical picture undergoes a change. For example, the lids become red and swollen, there is discharge from the eye, the xerotic patches (if they were present) disappear, the eyeball becomes violently inflamed, and, indeed, the signs of reactionary inflammation become so marked as almost to arouse a suspicion that a gonorrhœal infection has been superadded to the original mischief. Thalberg, speaking of this class of case, states that twice he has reached the mistaken diagnosis of blennorrhœa with secondary gangrene of the cornea.

Under any circumstances, the outcome of the case is only too likely to be unfavourable, for even if the baby survive he will probably be left blind of one or both eyes. The destructive nature of the disease is shown by figures recently published by A. Schiele (20), dealing with thirty-three cases of keratomalacia seen in the Kursk district of Russia in the years 1904, 1905, and 1906. Thirteen of the children were rendered totally blind, and seven were blinded in one eye; two recovered with corneæ blemished, and eleven could not be traced. Again, of the nine children mentioned in Knaebel's series who survived, eleven of the thirteen eyes affected (*i.e.* five unilateral and four bilateral cases) were known to have been blinded by the disease.

The final results of the disease may be phthisis bulbi, staphyloma, keratectasia, or a more or less serious leucoma adherens.

The diagnosis of keratomalacia should offer no difficulty to anybody who is aware of the existence of the disease. It is important to bear in mind that neither the existence of xerosis nor the presence of corneal changes in both eyes is essential to the recognition of the malady. It would be a fair generalisation to say that ulcers of the cornea, especially if bilateral, in infants between the ages of two and twelve months, are far more likely to be due to keratomalacia than to any other cause. Such children are too old for the corneal complications of gonorrhœal ophthalmia, and almost too young to suffer from the other great cause of corneal ulceration in children, namely, eczematous keratitis. While this is true, it is rather curious to notice from the case reports scattered throughout literature how often the symptoms of keratomalacia have been confused with those of ophthalmia neonatorum, although the age-incidence of the two ailments is very different. Indeed, sometimes the distinction between the diseases is not altogether simple, a fact of which I have had personal experience.

Keratomalacia may be said to be a malady devoid of distinctive

pathology. Considerable importance has been attached by Ernst and some others to the deposition of keratohyalin in the superficial layers of the conjunctival epithelium. The coarse pathology of any given case, however, will depend essentially upon the stage when the eye is examined.

If the pathology be not distinctive, neither is the bacteriology. No causal micro-organism has yet been discovered. *Xerosis bacilli*, *staphylococci*, *streptococci*, *pneumobacilli*, *coli bacilli*, *gonococci*, and, in particular, *pneumococci* have been found in scrapings from the sloughing corneæ. The diversity and multiplicity of these results is suggestive of there being no micro-organism peculiar to keratomalacia. As to my personal investigations, the only point worth noting is that the *pneumococcus* was present in five (45·45 per cent.) of eleven of my cases, twice in pure culture and thrice mixed with other microbes. The *pneumococcus* has been found in keratomalacia by other observers besides myself, as E. v. Hippel (21), Knaebel (7), Braunschweig (9), and Dötsch (22). That it is not essential to the suppurative process is shown by the fact that it need not necessarily be present in cases of keratomalacia. Before leaving this part of the subject I may say that three of my cases go to show that, on rare occasions, the *gonococcus* may affect the cornea and produce sloughing to the exclusion, complete or almost complete, of the conjunctiva.

Almost everybody, from Dr. Joseph Brown downwards, who has written about keratomalacia has compared the process, aptly enough, with that brought about in dogs fed, as in Magendie's famous experiment, with sugar and distilled water or other non-azotised food. In those animals an early and constant sign of inanition, as everybody knows, was furnished by sloughing of the corneæ and consequent destruction of the eyeballs. Indeed, in the light of modern knowledge it cannot be doubted that keratomalacia is due remotely to lowered vitality in a tissue devoid of blood-vessels, and immediately to inoculation with this or that pyogenic microbe. The assumption of a causal micro-organism is quite unnecessary.

Amongst exciting causes stress has been laid by various writers upon slight injuries to the epithelium (Stephenson), exposure by inadequate closure of the eyelids (Horner, Zirm), and even to pressure of the eyelid upon the tissues of an enfeebled cornea (Förster, Thalberg).

The corneal changes, in fact, appear to be analogous to the localised gangrene of the skin over the sacrum, the heels, and other bony prominences which is sometimes observed towards the terminal stages of marasmus, symptomatic or idiopathic. It is of interest

to note that such acute bed-sores (for that is what they are) have been noted in cases of keratomalacia by myself and other observers.

TREATMENT.

The general treatment, speaking broadly, is that suitable for marasmus—as, for example, hospital surroundings, a plentiful supply of fresh air, an incubator, a wet nurse, suitable food, and the administration of small doses of alcohol. Cod-liver oil has a distinct value in these cases provided it can be retained by the patient. Mori believes that keratomalacia is essentially due to a deficiency of fat. On that view, in spite of the diarrhœa often present, he has used cod-liver oil, and by that means has succeeded in curing even severe cases of the Japanese “Hikan.” In my experience, however, if the oil causes diarrhœa, it is best given by inunction. Neats-foot oil is an old-fashioned but efficacious remedy in these cases. The fact is significant that some of the cases of keratomalacia that have recovered have done so under specific treatment. The rapidity of action desirable in these desperate cases is probably best secured by giving mercury with chalk in doses of from $\frac{1}{2}$ gr. to 1 gr. three times a day, and by rubbing into the skin every night a piece of mercurial ointment, roughly of the size of a pea. In order to prevent the medicine from being carried away by the bowels, it is advisable to combine with each dose of the mercurial $\frac{1}{2}$ gr. of sodium bicarbonate and 1 gr. of aromatic powder of chalk.

The local treatment should include the frequent use of hot saline or boric lotion. The fluid should be directed against the closed eyelids for ten or fifteen minutes at a time, once a day or oftener, and in the intervals between the applications the lids should be kept tied up by means of a bandage. Gama Lobo and de Gouvêa speak highly of steam at a temperature of 40° C. employed in this way. I can testify that it is sometimes of great service. The heat both limits necrosis and hastens separation of any sloughs that may be present. At intervals an antiseptic, such as argyrol, quinine, or hydrogen peroxide, should be dropped into the eye. My own experience leads me to rank physostigmine highly in keratomalacia. The alkaloid should be dissolved in sterile oil ($\frac{1}{2}$ per cent. to 1 per cent.), and the collyrium be dropped into the eyes two to six times a day. Physostigmine was strongly recommended by J. Thalberg, who saw much of the disease in Russia, and its use has been endorsed by Holmes Spicer (23) and by Adolf Knaebel (7).

It is sometimes surprising to see how quickly the cornea casts its slough under the use of the remedy.

In the more acute stages of the disease the utmost gentleness should be exercised by making the necessary examinations and applications. The importance of care in this respect is shown by cases reported by Thalberg and Biber respectively, where the lens escaped from the eyes of babies on attempting to separate the eyelids. A precisely similar accident happened in one of my own cases.

Speaking from the standpoint of my present experience, I should now be chary of applying any strong antiseptic, as carbolic acid, to these ulcers, while I certainly should not attempt to scrape or cauterise them. The vital powers appear to be so low that the cornea is unable to furnish the reaction necessary to healing. The only operation that I might be tempted to perform would be the Guthrie-Saemisch section, or, possibly, the multiple peripheral punctures of the cornea described many years ago by the late George E. Walker, of Liverpool, under the name of "kerotomy" (24).

The last point is that if the baby's eyelids are incompletely closed it may be advisable either to suture them together or else to perform tarsorrhaphy.

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THE SURGICAL ASPECTS OF ACUTE ABDOMINAL DISEASE IN CHILDHOOD.*

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THE varieties of abdominal emergencies which occur in childhood are in a measure similar to those of adult life. When confronted with a case in childhood presenting acute peritoneal symptoms we are probably justified in excluding an origin in the gall-bladder, the pancreas, and in the diverticula of the colon. When the symptoms point to intestinal obstruction we may with some justification dismiss several varieties, common in adult life, from our consideration. For instance, internal herniæ and gall-stone obstruction practically never occur in childhood; neoplasms in the wall of the bowel hardly require consideration, although I would remind you that carcinoma of the bowel has been recorded in early life as has also the rare intestinal sarcoma.

My own experience of 98 cases of the "acute abdomen" in children under twelve years of age shows the diseases represented as follows:

Appendicitis	54 cases.
Pneumococcal peritonitis	6 "
Inflammation of the diverticulum of Meckel	2 "
Intussusception	28 "
Intestinal obstruction by a band	3 "
Intestinal obstruction from adhesions	4 "
Intestinal obstruction from pressure of mesenteric glands	1 case.

In the above list there is no mention of gastric or duodenal ulcer, since no such case has come under my observation. It is usually stated that gastric ulcer is a rare disease in childhood, but the recent literature seems to suggest that it is by no means so rare as

* A paper read before the Richmond Division of the British Medical Association on April the 26th, 1911.

is usually supposed. The acute perforation of the ulcer is, however, probably decidedly rare. Nevertheless it has been recorded at all ages, even shortly after birth. In infants and young children it is stated that there have not been any symptoms preceding the acute catastrophe by means of which a diagnosis might have been made. In older children, as in adults, symptoms pointing to gastric trouble have been present. The possibility of a perforated gastric ulcer should always be considered in the differential diagnosis of any anomalous case of acute peritonitis in childhood. I would remind you that gonorrhœal peritonitis may occur in childhood, that typhoidal and tuberculous ulcers may perforate, and that the pedicle of an ovarian tumour may undergo torsion with acute symptoms. Of rare varieties of intestinal obstruction may be mentioned foreign bodies, enteroliths and worms obstructing the lumen of the canal, and also the final acute phase of a slowly produced obstruction by a congenital stricture, or that interesting disease, the so-called congenital idiopathic dilatation of the colon. All such conditions are infrequent, and time permits me merely to mention them. It will be much more profitable to consider the more common varieties of acute abdominal disease in children which we meet with in every-day practice.

APPENDICITIS.

Appendicitis is undoubtedly the most common acute abdominal disease in childhood requiring surgical treatment. It is a disease which is so familiar to all that some apology is due to you for bringing forward such a hackneyed subject. My plea must be that appendicitis still has a high mortality in childhood, and for this we are to a certain extent to blame, and a disease so frequently discussed as appendicitis cannot be without interest, for there cannot be unanimity of opinion on all points. I have no intention of giving a detailed account of appendicitis, but merely wish to make a few remarks upon the disease in childhood and the opinions at which I have arrived.

The word "appendicitis" requires qualification, for, as you know, the disease may be caused by the tubercle bacillus, the pneumococcus, actinomycosis (doubtful in childhood), as well as by the bacillus coli and the common pyogenic cocci. Of the former varieties I shall say nothing, but confine my remarks to the common variety which is produced by the colon bacillus or the common pyogenic cocci.

Appendicitis is a chronic disease with acute exacerbations. The

surgeon naturally sees it in its acute phase. Only in five out of fifty-four cases in children have I operated to remove an appendix in what is called the "quiescent interval." Appendicectomy during the "quiescent interval" is perhaps the most common operation in adults. In children, on the other hand, operation is generally undertaken for suppuration. In no less than thirty-nine cases out of fifty-four I have operated for peritonitis, diffuse (eighteen cases) or localised (twenty-one cases). In ten further cases I was fortunate enough to be able to operate within the very early hours of the acute illness where symptoms may be said to have been comparatively trivial, and whether resolution or suppuration would have occurred in such cases cannot be said. These figures, anyhow, will show that appendicitis in childhood comes generally to the surgeon on account of suppuration. Hence it is considered that appendicitis is a more severe and virulent disease in children and claims a relatively higher death-rate than in adult life. It is also stated that appendicitis is comparatively infrequent in the first decade of life. Statistics usually give the common age as fifteen to twenty-five years or thereabouts. The evidence of chronicity of the disease in the child is shown by the state of the appendix removed during the acute phase of the illness. In all my cases of diffuse peritonitis I have removed the appendix. In the earlier ones of localised suppuration I was content with merely opening the abscess, but in the later ones (the majority) I have almost invariably removed the appendix in addition, and have never had any cause to regret so doing. The pathological changes in the appendix in the diffuse and the local suppuration are similar. Whether the inflammation be localised or diffused is merely a battle between the virulence of the organisms and the resisting powers of the individual. The appendix occupies a variable position, and it might be thought that one tucked away behind the cæcum or colon would be less liable to infect the general peritoneal cavity than one lying internal to the cæcum directed towards the pelvis or even hanging into the pelvic cavity. Such is not the case, however, for the posteriorly or externally situated appendix is relatively just as commonly the cause of a diffuse peritonitis as is the appendix which occupies the more frequent internal position. The appendices which I have removed during the acute phase of the disease almost invariably showed changes of some duration. In at least three quarters of them one or more concretions were found; in many a naked-eye examination of the walls showed obvious chronic changes, and in others a microscopical examination proved old-standing disease.

In many of these cases the previous history relates symptoms which undoubtedly pointed to appendicular disease. In my experience the most frequent history is that the child, otherwise perfectly healthy, has suffered from recurrent stomach-aches, usually associated with vomiting, perhaps diarrhœa, and if the temperature be taken, a little fever. The illness is so comparatively trivial in the parents' judgment that medical advice is not often asked. When the appendix is removed, these attacks no longer occur. I am not contending that all stomach-aches in children owe their origin to the appendix, but there is no doubt whatever that many of them do. You must remember that the child will rarely locate the pain to the appendix region, but will pass his hand right across the abdomen when asked where the pain is. But if an opportunity arises of examining a child who develops these symptoms abruptly, and in addition definite tenderness and muscular rigidity, however slight, is present in the right iliac fossa, the right loin, or in the hypogastric regions, then appendicitis can be pretty certainly diagnosed. In other cases it was stated that the child was constantly ailing, the bowels were irregular, sometimes there was constipation and sometimes diarrhœa, there were periods of anorexia, occasional febrile intervals associated with colic and abdominal discomfort. Here, again, these symptoms are not always diagnostic of appendicitis, but localised tenderness over the lower right abdomen would strongly suggest the appendix is at fault. It is very noteworthy that when the appendix has been removed in such cases the improvement in the child's health is very marked. In a certain number of cases the previous history is absolutely negative, and this in spite of the fact that the appendix shows changes of some duration. The more carefully the previous history is inquired into the fewer will be the number of cases in which it is absolutely negative. It can easily be understood how previous symptoms may have been overlooked, for parents cannot recall with any degree of accuracy the various abdominal ailments from which their children have suffered. The symptoms are frequently so slight that they pass unknown, or are altogether ignored and forgotten.

An inquiry into the previous history of adolescents who come for operation for appendicitis often reveals the fact that the disease may be traced back to childhood. In all probability appendicitis is extremely common in the first decade of life, but at that period comes under the notice of the surgeon much less frequently than in the second decade.

Time does not permit me to enter at all fully into the *diagnosis*

of appendicitis, and I must rest content with merely calling to your notice a few points. The signs and symptoms are well known, and do not differ, save in degree, in any form of the disease. I wish to lay especial stress upon the recognition of the minor manifestations of the disease. I know perfectly well that probably in the majority of cases medical advice is not sought at this period of the disease. In many cases, therefore, we cannot hope to save the children from the perils of a grave appendicitis until we can educate the parents to regard all stomach-aches in their children as serious and at once to seek advice. We on our part must never disregard any stomach-ache or abdominal discomfort in the child until we have thoroughly satisfied ourselves of its nature. I would repeat that many of these stomach-aches in children, regarded as quite trivial and almost as a part of the child's life, owe their origin to the appendix. An abrupt onset of abdominal pain (the child will never localise it to the right iliac fossa, but draw the hand all over the abdomen when asked where the pain is), usually with vomiting, perhaps diarrhoea, and fever, however slight, associated with localised tenderness and muscular rigidity, however slight, means almost certainly appendicitis. It is only the association of these signs which can establish the diagnosis. The illness may be over in the space of a few hours—indeed, anything like severe pain may only last an hour or so—but for a few hours afterwards some tenderness can be obtained on deep pressure on the abdominal wall. If parents do not consult their medical practitioner for these symptoms only rarely will the surgeon have the opportunity of seeing the child in one of these minor manifestations of the disease. Hence it has been my lot to have had the opportunity to operate on 10 occasions only in such cases. The symptoms appeared at first sight to be quite trivial—indeed, in some, spontaneous pain had practically disappeared, but localised tenderness and slight rigidity of the abdominal muscles persisted. It is interesting to note the condition of the appendix in these cases. The adhesions were slight or absent, the appendix was inflamed in varying degree and for a variable extent, a concretion may be present in it, and, what is most important even at this early stage of the acute infection, a limited infective gangrene may be present, and this gangrenous process may extend practically throughout the entire thickness of the wall of the appendix. However slight may be the symptoms in the child the condition of the appendix cannot be foretold.

A very common symptom during the acute phase of the disease in children is frequency of micturition, and perhaps some pain during

the act. This is so commonly present that I always ask directly for it.

I admit that only rarely have we an opportunity of seeing a case presenting such minor symptoms, but such is the beginning of many of the graver forms of appendicitis in children, and it is only because the child does not get better that after twenty-four, forty-eight hours or longer medical advice is sought. At this period there might be difficulty in the differential diagnosis, and also in the degree of appendicitis.

A severe peritoneal infection is occasionally associated with cerebral symptoms, and these may appear at first sight to be the predominating features of the disease. It is by no means surprising that cerebral symptoms may occur in acute infective conditions if we remember the changes which Crile has described in the cells of the brain in acute toxic conditions (and other conditions also). Similar cerebral symptoms will occasionally occur after a severe operation upon a child.

More frequently than the latter an acute peritoneal lesion may be confused with an acute pulmonary affection. A child with pneumonia may complain severely of abdominal pain, the abdomen may be distended and tender, and there may be a certain degree of rigidity of the abdominal muscles. The aspect of the child, the pulse-respiration ratio, and the absence of true muscular rigidity, as shown by the relaxation of the abdominal wall during the height of inspiration, even in the absence of physical signs in the chest, will generally serve to differentiate the two conditions.

In a few cases with ultra-acute symptoms the clinical picture of diffuse peritonitis, as described in the text-books, is obvious in a few hours after the onset of the illness. This, however, is not common in the child. More frequently diffuse peritonitis is insidious in its onset and spread. The abdominal wall may move freely on respiration, and the child may be able to raise his shoulders from the bed with comparatively little discomfort. To the touch the abdominal wall is not hard—indeed, to light palpation it may be quite soft. There is neither abdominal distension nor retraction. The child may sleep for hours. The temperature may be normal or very slightly raised. The pulse-frequency, always variable in the child, may be below 100 if taken asleep. There is always, however, to be detected some spasm of the abdominal muscles upon the pressure of the hand or finger-tips, and in addition the aspect of the child is suggestive of acute toxæmia. There should be no doubt about the diagnosis of this type of diffuse peritonitis.

In some cases after a variable interval of the minor manifestations of the disease a sudden and very severe pain is experienced. The symptoms are comparable to the perforation of any hollow viscus, and always denote a perforation of the appendix. There should be no delay when once this has occurred. If there be, the course taken will be similar to that of a perforation of any other viscus. Within a few hours the pain abates, and the condition seems to be improving, but with certainty it may be said that diffuse peritonitis or localised suppuration will occur: which of the two it cannot be foretold.

Not infrequently after a typical onset a sudden cessation of pain occurs. I would particularly warn you about such cases. Do not imagine the disease has become arrested and delay operation, but, on the other hand, urge most forcibly an immediate operation; for it may mean that a distended appendix has suddenly given way, and the sudden relief of tension has caused the temporary cessation of symptoms. Within a short time signs of spreading peritonitis will be present, or within a variable interval it will become evident that localised suppuration has occurred: which of the two will follow it cannot be foretold.

Asymmetry of the abdomen after an illness of two or three days' duration means abscess formation, although a swelling may not be detected on account of muscular rigidity. A palpable swelling when the illness has lasted three or four days also means abscess-formation.

It is by no means uncommon to find a very definite swelling, which is obviously an abscess, associated with diffuse peritonitis. I would warn you about such cases, for it is very easy to miss the diffuse peritonitis and merely concentrate the attention upon the localised abscess. There are many instances recorded in children where death has occurred more or less suddenly a few hours after an operation for appendicular suppuration. I am not referring to death from pulmonary embolism, which rarely occurs. The operation has passed off quite satisfactorily, and the child appears to have got over it. But it may be within twenty-four hours, or later, a more or less sudden collapse sets in, and in spite of all treatment death ensues within a few hours. My experience teaches me that some such cases are due to an unsuspected and entirely overlooked diffuse peritonitis, which was present at the time of operation. This more or less abrupt collapse followed shortly by death may occur during the course of any acute toxæmia. When following an operation it is thought naturally to be due to the operation, and so

it is in great part. The shock of the anæsthetic combined with that of the operation hastens the fatal ending in one already severely poisoned.

A rectal examination should never be omitted in any case of acute abdominal disease in the child. By this means it is possible to explore the whole pelvic cavity. I would remind you that the most frequent position of the appendix is one internal to the cæcum directed towards the pelvic brim and very commonly in part occupying the pelvis in the child. Even in the early stages of appendicitis, tenderness on the right side of the pelvis or an indefinite swelling suggesting matted intestinal coils in association with the symptoms are sufficient to warrant a diagnosis. In the later stages when abscess has formed in no less than six out of twenty-one cases this has been entirely within the pelvic cavity, and not palpable at all by the abdomen.

There can be no doubt that the only *treatment* of appendicitis is surgical. To my mind there is also no doubt that the operation should be performed as soon as the diagnosis has been made, at whatever period of the disease. I advocate, and practise whenever opportunity offers, immediate operation during the period of the minor manifestation of the disease. It is only by operating at this stage that the grave complications can be prevented. The only difficulty here is to persuade the parents to submit their child to an operation for such comparatively slight symptoms, symptoms from which the child has probably suffered previously and recovered quite perfectly. Before attempting to persuade the parents to the operation we must be convinced in our own minds of the diagnosis, and I feel certain that we may be by the signs I have mentioned. Although the symptoms may seem quite trivial, such is the beginning of a grave appendicitis in many cases, and we can never foretell the outlook in any case from the early signs, and we never know the condition of the appendix however slight may be the clinical symptoms. An operation conducted at this period is perfectly safe, and very much easier than one performed for localised suppuration, where it is sometimes by no means easy to find and remove the appendix.

Should diffuse peritonitis be present (and this refers not only to peritonitis of appendicular origin but all varieties), the first thing to do when preparations are being made for operation is to place the child in such a position that by gravity the peritoneal exudate will flow towards the pelvis. The pelvic peritoneum is more tolerant and absorbs less quickly than that of the upper abdomen. If transporta-

tion to a hospital or elsewhere be necessary this position should, if possible, be maintained. Secondly, an effort should be made to raise the blood-pressure. There is nothing so valuable for this as the infusion of saline solution. This should be administered subcutaneously. Thirdly, it is necessary to empty the rectum, as this cavity will be needed for the saline infusion after the operation. The operation must be conducted with all rapidity under an anaesthetic which produces the least degree of shock, and it may be necessary or advisable to administer saline infusion subcutaneously during the operation. The appendix must be removed and the peritoneal cavity drained. In the child it is nearly always possible to remove the appendix through a mid-line incision. The most essential drain, and practically the only one I use, is one to the bottom of the pelvis. Following the operation the position which allows gravitation towards the pelvis must be maintained, and rectal saline infusion at once commenced. The value of pituitary extract in combating the shock in these cases is, I think, very doubtful; I cannot say I have seen any good from its use in these cases in the child.

Before operation for localised suppuration, if the condition of the child demand it, saline solution should be administered subcutaneously. It is essential to empty the rectum as rectal saline infusion may be necessary afterwards. The not infrequent association of a local swelling and diffuse peritonitis must always be borne in mind, and if there is any doubt upon this point, after treating the local abscess it is much wiser to make a separate small mid-line incision and ascertain the condition of the peritoneum. Personally, I always aim at removing the appendix in all cases of abscess formation.

PNEUMOCOCCAL PERITONITIS.

To Bozzolo is given the credit of publishing the first case of pneumococcal peritonitis in 1885. This was a case of pleurisy and peritonitis, and from the exudate the pneumococcus was isolated. During the following few years several isolated cases were published by different observers. Nélaton, in 1890, performed the first operation for the disease without success in a woman, aged 32 years. Sevestre, in the same year, operated successfully upon a child for pneumococcal peritonitis. Cassaet, in 1896, was able to collect twenty cases from the literature. Michaut, in 1901, was able to collect thirty-three cases from the literature, and Jensen, in 1903, collected fifty-eight cases in children. Since that date the literature

upon the subject has increased enormously, showing that, as so frequently noticed in other cases, when a disease, however rare it was once considered, is described fully, the rarity becomes a fiction, and in reality the disease is comparatively common. This is so in pneumococcal peritonitis, for it is by no means a rare disease, and one that we may encounter any day. The pneumococcus is secondary to the appendix as a cause of peritonitis in the child.

There is no doubt that pneumococcal peritonitis is a much more frequent disease in early than in later life. Six out of seven of my cases have been in children. Probably the disease is twice or thrice as frequent in the child as in the adult. The difference in sex is peculiarly noticeable in children. All my cases have been girls. In fifty-eight cases in children collected by Jensen there was a proportion of seven boys to fifty-one girls. Lenormant found the ratio six to thirty-eight. Matthews says it is seven times more frequent in girls than in boys. In adults, on the other hand, the sexes seem to be more equally affected.

Pneumococcal peritonitis may be primary, *i.e.* the peritonitis is the sole or the predominating evidence of the pneumococcal infection, or it may be secondary to some distant focus of infection. In one of my cases the peritoneum, both pleuræ and the pericardium were infected, and although the disease was far more extensive in the peritoneum, it cannot be definitely asserted that this was the primary lesion. In my other cases the peritonitis was the sole lesion, and in children, in the great majority of cases, we have to do with a primary pneumococcal peritonitis. Occasionally, however, the peritonitis is associated with pneumonia or pleurisy, and in some of such cases the peritonitis appears to be the primary lesion, whereas in others it may be secondary to the pulmonary infection. When secondary to a pulmonary affection it has been explained by a direct trans-diaphragmatic spread. Such, however, is probably not usual, for the absorption from the pleura is greatest in the mediastinal and costal pleuræ, and is comparatively little in the diaphragmatic pleura, and the lymph-flow through the diaphragm is from the peritoneal to the pleural aspect; a lymphatic spread of the pneumococcus from the pleura to the peritoneum implies a flow of the lymph-current contrary to normal. It has, however, been proved, both experimentally and from the examination of persons who have succumbed to pneumonia, that the spread of infection from the pleura to the peritoneum does occur. Pneumonia and pleurisy, both extremely common in children, are rarely complicated with peritonitis.

Since a pulmonary infection so infrequently precedes the peritoneal, and when it does, seeing how improbable it is that the infection of the peritoneum is directly infected by the trans-diaphragmatic route, we must consider other means by which the pneumococcus may reach the peritoneum. Three ways suggest themselves: by the blood, from the gastro-intestinal tract, and *viâ* the genital organs.

By the blood.—The pneumococcus is constantly found in the mouth; it frequently becomes pathogenic, producing middle-ear disease, angina, etc., and it is conceivable that it may enter the blood and be carried to the peritoneum. This may be the path of infection in the cases secondary to pneumonia or pleurisy, for it is stated that the pneumococcus is frequently found in the blood of patients the subject of pneumonia. An infection by the blood to the peritoneum has, I believe, never been demonstrated; it is purely hypothetical.

By the gastro-intestinal tract.—This seems certainly the most likely route. The pneumococcus is constantly present in the mouth, and, therefore, is presumably frequently swallowed, and enters the stomach. It is stated that it is killed by the acid of the stomach, but probably it may escape and become pathogenic in the bowel. The pneumococcus has been found in association with various pathological lesions in the intestines. It has been found in some cases of enteritis, in some cases of gastritis, in some cases of perforated gastric ulcer; it has been found in abscesses in the intestinal wall, and by no means rarely in disease of the appendix. Clinically, this route of infection is supported, since gastro-intestinal symptoms are constantly present. Pathologically, on the other hand, it is extremely rare to find any coarse lesion of the gastro-intestinal tract in children who succumb to pneumococcal peritonitis.

By the genital organs.—This route is suggested by the strikingly greater frequency of the disease in girls than in boys. In adults the pneumococcus has been found, in association with other organisms, in cases of pyosalpinx, endometritis and vulvitis, but in children I believe it has not yet been possible to trace the infection to the peritoneum by this route. Nevertheless, a detailed microscopical examination might reveal some evidence in the future, for there must be something in this great disproportion of sex-incidence.

Clinically pneumococcal peritonitis in its ultra-acute form differs in no way from any form of diffuse septic peritonitis. Operation is undertaken upon the belief that it is the latter variety of peritonitis which is present, and only the bacteriological examination of the

exudate will settle the diagnosis. When operating upon a case of diffuse peritonitis for which no obvious cause can be found, the pneumococcus should always be thought of, for it is possible that a serum or a vaccine may be of use should it prove to be pneumococcal in origin. This acute form of the disease is by no means an infrequent variety in the child.

When the disease is less acute the exudate may be encysted or diffused. The initial symptoms are similar in each case. The onset is quite abrupt with abdominal pain, vomiting and fever. The pain may be localised or diffused, and, if localised, is generally referred to the lower abdomen. The fever is variable, but is always present. Rigidity of the abdominal muscles in some degree is always present, but it may be less evident than in the insidious type of appendicular peritonitis. Within a few hours, or perhaps not for a day or two, diarrhœa sets in, resisting all treatment. The ejecta are always foul-smelling. This diarrhœa is so constant as to form one of the features of the disease, and, indeed, it seems to be the most characteristic. Diarrhœa may occur in any form of peritonitis, especially that of appendicular disease in children, but this differs from the foul diarrhœa of pneumococcal peritonitis. After twenty-four or forty-eight hours some amelioration of symptoms occurs. The vomiting ceases, the temperature falls, and the general condition is decidedly improved. The temperature, however, never reaches the normal line, but oscillates a variable distance above this. Abdominal pain never disappears, neither does rigidity of the abdominal muscles. If the inflammation is diffusing the pain, tenderness and muscular rigidity will become more wide-spread; the abdomen will distend, and the aspect of the child will alter. If allowed to progress, signs of free fluid in the peritoneal cavity may be detected. Showing how subacute the course of this disease is in some cases, I may mention that children have been operated upon successfully on the eighth, tenth, and thirteenth days of the illness. If the exudate becomes encysted, after a variable interval following upon the initial symptoms a swelling is detected in the abdomen. This swelling is almost invariably in the lower abdomen, frequently rising out of the pelvis; sometimes more towards the right side, and occupying the right iliac fossa. It may not be for some days that this swelling makes itself evident: indeed, it has generally been recorded as occurring about the tenth or twelfth day of the illness.

Such is the clinical course of pneumococcal peritonitis. There is nothing distinctive upon which a diagnosis can be made, unless it be

the foul diarrhoea, and this is probably merely suspicious. It is frequently mistaken for appendicitis, and the more subacute forms for typhoid fever or tuberculous peritonitis. There should, however, be no difficulty in recognising the case as one of peritonitis, for which condition surgical treatment is necessary. If an early operation be undertaken in all probability there will be nothing distinctive in the exudate, appendicitis will be diagnosed and this organ removed. Should this be found healthy, pneumococcal peritonitis should at once be suspected. In the subacute cases the character of the exudate and the lymph will generally serve to distinguish pneumococcal peritonitis. The treatment after operation is similar to that of any variety of peritonitis. The rectal infusion of saline solution is essential to combat shock, and in addition it tends to render more fluid the thick, sticky peritoneal exudate, and thereby allows its more ready escape through the drainage-tubes.

(To be continued.)

TUBERCULOSIS OF THE BRAIN WITH INVOLVEMENT OF BOTH OPTIC THALAMI.

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A GIRL, aged $10\frac{1}{2}$ years, was admitted to the Royal Hospital for Sick Children, Glasgow, on March the 15th, 1911, with the following history: Eight months prior to admission she had an acute febrile attack, which was accompanied by epistaxis and headache, partly occipital and partly vertical. The acute symptoms subsided, but she never became quite well; the headache persisted, and she began to lose flesh. Three months later, subsequent to the removal of tonsils and adenoids, she had a very severe inflammation of the throat with high temperature. Shortly afterwards there was a discharge of pus from the right ear. In the course of a week or two the fever subsided and the throat got better, but the ear continued to discharge for a time, and her general condition got gradually worse. She remained in this state until a fortnight before admis-

sion, when she had a return of acute symptoms characterised by fever and an exacerbation of the headache, which was mainly occipital in type. She now lost flesh rapidly and sweated a good deal at night. A constant fine tremor then gradually made its appearance in the limbs, especially in the fingers. The patient became much weaker, but did not show signs of mental dulness. She never had any vomiting, head-retraction, convulsions, or squint.

There was nothing of importance to note in the child's previous health. The family history was good, there being no suggestion of tubercular or specific disease.

Condition on admission.—Temperature 100° F., pulse 120 and respirations 24 per minute. The patient was very emaciated. Her face was flushed, but there was no lividity. The general intelligence did not appear to be impaired, but the child was very irritable and screamed whenever she was touched. A special feature of her condition was the presence of a generalised tremor producing a state closely simulating a rigor, but the temperature was not greatly elevated and did not subsequently rise. This tremor was constantly present unless when the child was asleep, but was most marked when she was being examined or being attended to by the nurse. In the limbs the tremor was fine and rhythmical, but was more distinct in the arms and hands than in the legs and feet. In the neck and trunk the tremor was coarser in character. The lower jaw was also in constant movement. There was no loss of volitional or emotional mobility of the face. Retraction of the head was absent, but the posterior cervical muscles were contracted and painful. There was no rigidity or paralysis of the limbs, but Kernig's sign was found present to a slight extent. The knee-jerks were active, but not unduly so; ankle-clonus could be elicited in both limbs; the plantar reflexes were flexor in type. No disturbance of sensation could be detected, but this part of the examination was not satisfactory.

The eyes.—Both pupils were moderately dilated and reacted only sluggishly to light. There was no strabismus nor nystagmus. Double optic neuritis was present. Lumbar puncture was performed, but the fluid obtained was quite clear, and the deposit obtained after centrifugalising was found microscopically to consist of normal cells. No micro-organisms could be found. The ears were examined, but showed no active disease, though there was evidence of past mischief in both, especially the right.

Thoracic and abdominal organs.—Respiration was a little rapid, otherwise it was undisturbed. The lungs revealed no abnormality to

percussion or auscultation. The examination of the circulatory system revealed nothing abnormal beyond a slight undue rapidity of the pulse and weakness of the heart's action. The tongue was moist and thickly coated with a white fur. A generalised tenderness was complained of in the abdomen, but nothing abnormal was palpable. The splenic dulness was slightly increased in size, but the organ was not palpable.

Progress.—After admission the child remained in practically the same condition for a week. The temperature showed daily variations ranging from about 100° F. to normal. The pulse varied in rate considerably, but was never very slow and never showed irregularity. The tremor persisted in the form already described. Seven days after admission there was a distinct change for the worse. She seemed less intelligent and frequently cried out as if in pain, particularly on any attempt being made to move her, but no new localising symptoms developed.

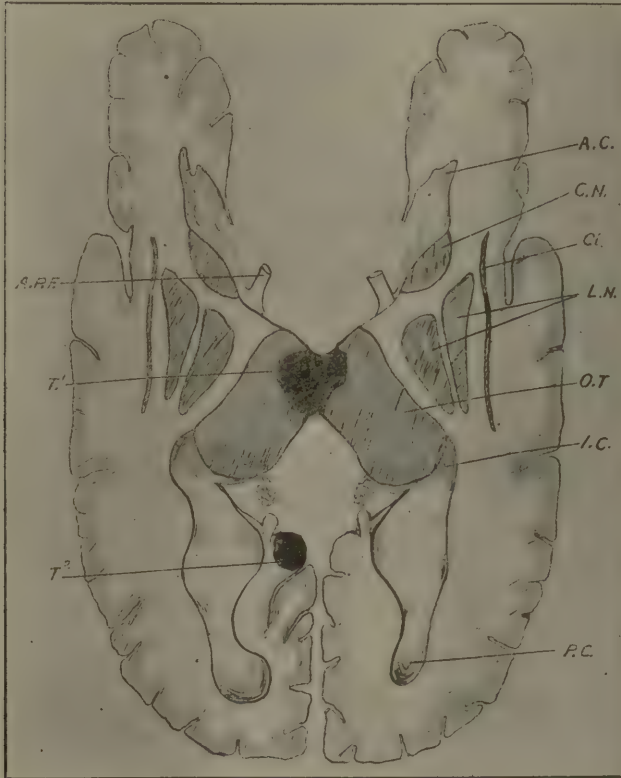
On the evening of March the 25th, ten days after admission, there was a sharp rise of temperature to 102·4° F. followed by a sudden fall to normal. A further rise occurred the following morning to 101·2° F. The child became gradually semi-comatose and passed urine and faeces in bed. The tremor still persisted but was less marked. There was now distinct impairment of the percussion resonance over the upper part of left lung, and in this situation the respiratory murmur was diminished in volume. The condition of the patient now got rapidly worse, and she sank into an unconscious state. The breathing became short and laboured and the pulse got more rapid and feeble. The tremor practically disappeared, as did also Kernig's sign. Definite râles made their appearance over the upper part of the left lung. Just before death there was a more flaccid condition of the left arm than of the right.

On March the 26th lumbar puncture was again performed; the fluid would not flow, though about one drachm of clear fluid was withdrawn by a syringe. The child died on the following day.

Post-mortem examination.—On exposing the brain after the dura mater had been removed, well-marked tubercles were found in the sulci over the vertex, and the convolutions were seen to be flattened. On removing the brain a small nodule was left adherent to the dura on the left side just below the lateral sinus. This was found to be a small tumour, about the size of a small hazel-nut, which had shelled out of a cavity in the left lobe of the cerebellum. There was a well-marked tuberculous meningitis involving the base of the brain. On section of the brain the lateral ventricles were found to be enormously

distended with clear fluid. On reaching the basal ganglia a tumour was found occupying the site of the massa intermedia between the two optic thalami and partially involving both these ganglia.

On making further sections this tumour was found to occupy the



Horizontal section of brain through the basal ganglia, showing position of tumour. The anterior portions of the cerebral hemispheres are represented as lying too widely apart, due to a separation that occurred during hardening of the specimen. A.C. Anterior cornu of lateral ventricle. I.C. Inferior cornu of lateral ventricle. P.C. Posterior cornu of lateral ventricle. C.N. Caudate nucleus. Cl. Claustrum. L.N. Lenticular nucleus. O.T. Optic thalamus. A.P.F. Anterior pillar of fornix. T¹. Tumour in gyrus lingualis of left occipital lobe. T². Tumour in optic thalami.

greater part of the anterior portion of the optic thalamus on the left side, and also, though to a less extent, the same part on the right side (see diagram). Another tumour was found in the gyrus lingualis of the left occipital lobe, and still another was found in the left lobe

of the cerebellum just anterior to the site occupied by the one already referred to.

A generalised miliary tuberculosis was found in both lungs, with some broncho-pneumonic consolidation in the upper lobe of the left. Bronchial glands were enlarged, and some of them were caseous. Miliary tubercles were present also in the liver and spleen. The kidneys were quite healthy. No tubercle was seen in the peritoneum or bowel, and the mesenteric glands appeared to be free. Microscopical examination of one of the tumours showed it to be typically tuberculous with caseation in the centre surrounded by active tuberculous tissue containing giant-cells.

Remarks.—The above case is interesting on account of the generalised tremor, so marked a symptom during life, being associated with a well-defined lesion of the optic thalami as proved by post-mortem examination. Whether it would be correct to ascribe the tremor to this lesion is worthy of some consideration. The lesion of the optic thalami was not the only cerebral lesion. There were other small tumours present, but these were so situated as to be easily excluded as a cause of this symptom. Tuberculous meningitis was also present, but the tremor was probably not due to this cause. Generalised tremor present continuously for many days is not in our experience a feature of meningitis. Muscular twitchings in this condition are common, and a rapid rhythmical tremor, especially of the arms, is said to be an occasional symptom, but in both cases they are either fleeting or of comparatively short duration.

It seems, therefore, reasonable to consider the involvement of both optic thalami as being the lesion accounting for the generalised tremor.

The functions of the optic thalami are not yet fully understood. They are generally believed to receive the stimuli which flow by the sensory tracts from the periphery and to transmit them to the cortex of the brain. Yet hemi-anæsthesia has not been proved to be a definite result of a lesion of the optic thalamus, just as a lesion of the pulvinar, the part of the thalamus which receives numerous fibres of the optic tract, does not inevitably give rise to hemianopsia, though a lesion of the external geniculate body will do so.*

Another function of the optic thalami is said by many to be that of acting "as a centre for involuntary automatic movements for the

* 'Text-book of Nervous Diseases,' by Prof. H. Oppenheim, of Berlin. Fifth edition; authorised translation by Alexander Bruce, M.D., F.R.C.P.E., LL.D.; Edinburgh, 1911; p. 650.

psycho-reflexes and therefore for movements not directly controlled by the will. Lesions of the thalamus, therefore, will, according as they have an irritating or a paralysing effect, produce either exaggeration or abolition of the automatic mimic movements.”* It has already been noted that no disturbance of this kind was detected in our case.

Again, involuntary movements, such as hemichorea, hemiathetosis, and tremor, especially as post-hemiplegic phenomena, have been observed when the optic thalami were involved. In our case we have tremor associated with involvement of the optic thalami but independent of any hemiplegia. The interpretation of such involuntary movements has given rise to many theories.

“Are we, in fact, dealing with an irritation of a centre for involuntary movements? Or does the irritation of sensory fibres to the cortex cause stimulation of the motor regions which manifests itself in these involuntary movements? Are these fibres from the thalamus to the cortex for the inhibition of the functions of the motor region, whose interruption causes these symptoms of motor excitement, etc.? Or does the impulse from them arise, not from the optic thalamus, but rather from simultaneous lesions of an adjacent tract?”*

These remarks of Oppenheim show that the explanation of the tremor, even if we accept it as being connected with the lesion in the optic thalami, is a matter of speculation. The simplest view would be that the involvement of both optic thalami in a degenerative lesion produced an irritative effect upon the internal capsules; and the portions of these chiefly affected would be the genu and the anterior part of the posterior limb—parts occupied by the motor fibres passing to the mouth and upper limbs. Less affected would be the part further back containing the fibres going to the lower limbs. This would explain the distribution of the tremor, the arms being more affected than the legs. The sensory fibres, which lie most posteriorly as we have seen, were probably not affected.

This case is peculiar in the fact of both optic thalami being affected; hence the plausibility of explaining the bilateral tremor by this lesion. In this case, as in many other cases where the optic thalami have been involved, the symptoms produced are probably the result of the implication of adjoining structures. We are thus drawn to the conclusion that the bilateral tremor in this case was due to irritation of the motor tracts in the internal capsules by the presence of the tumour in the optic thalami.

* *Loc. cit.*, p. 651.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Provincial Meeting, held at Addenbrooke's Hospital, Cambridge, on July the 8th, 1911.

Dr. E. CAUTLEY, *President, in the Chair.*

Cretinism.—Dr. E. J. CROSS.—Boy aged 6 years. First seen in March, 1910; then said to be suffering from kidney disease. The eyelids were then very puffy and swollen, the skin dry and scaly, and the hair thin. There was great muscular weakness and mental deficiency. Height 41.5 in. In June, 1911, the boy was much brighter and took an interest in life. Height 48 in. Treatment: Thyroid extract, 1½ gr. at bedtime, increasing to 3 gr. daily.

Cretinism.—Dr. J. ALDREN WRIGHT.—Boy, aged 15 years. At birth apparently normal. Did not walk until 3½ years old. When aged 7 years mother noticed that he was stunted in growth. Condition when first seen, March, 1910, aged 14 years: Height, 30 in.; weight, 31 lb.; intelligence appeared absent; rarely moved; could neither walk nor talk. Skin dry and wrinkled; hair scanty. Large supra-clavicular and anterior axillary pads. Thyroid not discernible. Temperature, 97.6° F. Was given thyroid extract. Since then there had been a marked and continued improvement in intelligence and appearance. Present height, 39 in.; weight, 35 lb.

Congenital Heart Disease; Cerebral Hemiplegia.—Dr. J. ALDREN WRIGHT.—Boy, aged 7 years. Nothing wrong noticed until 18 months old, when, having previously walked well, "his left leg began to give way," causing him to fall at times. At this time fits also began to occur. The child first came under observation when he was 2 years and 11 months old. He was having twelve fits daily, and could neither sit up nor stand. Intelligence considerably impaired. Very passionate. Both knee-jerks were exaggerated. Plantar reflexes extensor. No ankle clonus. Left leg smaller than right. Systolic murmurs heard at apex, but loudest at pulmonary area (pulmonary stenosis). Present condition: Fairly well-developed boy; left side smaller than right. Intelligence and temperament improved. Knee-jerks exaggerated. Plantar reflexes flexor. Fits now occurred only during sleep—day or night; and, recently, only once daily.

Cerebellar ataxia.—Dr. J. ALDREN WRIGHT.—Girl, aged 14 years. When 4½ years old she somewhat suddenly lost the use of her legs, then of arms and speech. She had difficulty in swallowing. No control of her sphincters. No knee-jerks. Plantar reflexes flexor. After a time improvement set in; first beginning to crawl, then to walk, recovering control of her sphincters, etc. Present condition: Mental condition still impaired; in infant class at school. Talks slowly, but fairly distinctly. Sallow and expressionless countenance. No fits. Temperament improved; screamed

less than formerly. No nystagmus. More sensitive to touch and alterations of temperature. Walked with reeling gait and feet apart. Most unsteady in starting to walk. Knee-jerks absent. Plantar reflexes flexor. Abdominal reflexes active. Some inco-ordination of hands.

Congenital Nævoid Condition of the Left Thigh.—Mr. W. H. BOWEN.—Boy, aged 12 years, perfectly healthy and leading an ordinary life. Over the left buttock and outer side of thigh, irregularly arranged, was a surface portwine-like stain, but rather lighter than that usually seen. On the thigh the condition was associated with plexiform subcutaneous veins. The left leg was considerably larger in girth than the right, the measurements round the limb at the thickness of the calf being 13 in. and 12 in. respectively, and just above the ankle $7\frac{1}{2}$ in. and $7\frac{3}{8}$ in. Save for a small patch of cutaneous staining just below the knee there were no visible external signs of the leg or foot being affected in the same way as the thigh.

Glandular Fever.—Mr. W. H. BOWEN.—A temperature chart showing fluctuations in temperature in a case of enlargement of lymphatic glands in neck following measles, and shown as the most pronounced example of this type of "glandular fever," of which several cases were seen. The main points of the cases were that they followed attacks of measles at varying intervals, they started as a cervical adenitis and peri-adenitis with variable fever, that the constitutional conditions were never severe, and that complete recovery occurred without any suppuration in any case. It seems probable that the measles prepared the soil, and that a slight tonsillar inflammation led to the secondary glandular change.

Hydrocephalus and Buphthalmos.—Dr. J. C. W. GRAHAM.—Boy, aged 3 years. Right eye buphthalmic at birth and removed. Left eye gradually became buphthalmic, and was removed in March, 1910. The head measured 20 in. in circumference in December, 1909, and now measured 22 in.

Congenital Cataract.—Dr. J. C. W. GRAHAM.—Girl, aged 9 years. Congenital central deposit posterior surface of each lens. Vision $\frac{6}{18}$ in each eye.

Hypermetropic Astigmatism with Macular Changes.—Dr. J. C. W. GRAHAM.—Girl, aged 8 years. Vision in each eye $\frac{6}{36}$ in April, 1910; reduced to board only in March, 1911. Slightly improved by glasses.

(To be continued.)

CLINICAL SECTION.

Friday, May the 12th, 1911.

Foreign Bodies Removed from Œsophagus.—Mr. HERBERT TILLEY showed (a) a teat of a "comforter" removed from a child, aged 4 days, by direct Œsophagoscopy; (b) a penny which had been impacted thirteen

days removed from a girl, aged 13 years; (c) a farthing which had been impacted for five hours removed from a boy, aged 5 years; (d) a safety-pin removed from a child, aged 3 months.

Graves's Disease in a Boy.—Dr. W. ESSEX WYNTER showed a boy, aged 11 years, whose eyes had become unduly prominent nearly one year previously. In addition to proptosis there were general enlargement of the thyroid, fine tremor of the fingers, and a pulse of 92 to 124. The skin was moist and flushed, and there was yellowish pigmentation of the hands and neck. There was incontinence of urine and slight albuminuria. Thyroidectin had been given in 5-gr. doses thrice daily.

Ectopia Vesicæ in a Female Child.—Mr. E. MUSGRAVE WOODMAN showed a rickety child, aged 2 years, with congenital ectopia vesicæ. The symphysis pubis was wanting and the pubic bones badly formed. The vagina and rectum were normal. In 1906 Trendelenberg could find only thirty-five cases of ectopia vesicæ in females on record. Mr. Woodman was in favour of extra-peritoneal engrafting of the bladder into the rectum.

Congenital Deformity of Femur.—Mr. FRANK KIDD exhibited a child, aged 1 year and 5 months, in whom the X rays showed an absence of the upper epiphysis and of half the shaft of the left femur. There were no other deformities.

Philadelphia Pediatric Society.

MEETING, May the 9th, 1911, J. TORRANCE RUGH, M.D., President.

A CONSIDERATION OF THE CAUSES OF THE HIGH INFANT MORTALITY DURING THE SUMMER MONTHS.

Transmission of Infections.—Dr. ALLEN J. SMITH, by invitation, read this paper. After indicating that in any case the transmitting agency of an infection was to be referred to either a vital bearer or to some non-vital substance upon, or in which, the infection might happen to be present, and after stating that in a broad way the infant mainly owed its well-known relative freedom to infection in the first months of life to its isolation, Dr. Smith took up in turn a number of the more striking illustrations of living and non-vital bearers of infection. Of all animal conveyers man was himself the most common transmitter of infections to the infant. Therefore Dr. Smith urged the restriction, as far as possible, of indiscriminate fondling of infants by others than proper caretakers. Animal household pets, particularly cats and dogs, were held responsible not infrequently for the infection of children as well as adults, especially in connection with ringworm and analogous skin infections. Insect transmission of infections occurred in infancy and childhood precisely as in later life, the accounts of Koch, Wellman and others in reference to the prevalence of malaria in early life in Africa and of Guit  ras in reference to yellow fever among children being illustrations to the point in case

of mosquitoes. Fly-borne ophthalmias, suppurations and diarrhœal affections (with reflection on the probability of a higher rate of typhoid fever prevalence in the first few years of life than was generally believed, and the likelihood of its transmission by house-flies) were instanced as examples of conveyance by this class; and the same possibility of other arthropods transmitting disease to infants and children as to adults was insisted upon under appropriate conditions of access. Dr. Smith referred to Patten's work upon bed-bugs as intermediate hosts of Leishman-Donovan bodies and to personal communications from Campbell, of San Antonio, Texas, upon bed-bugs as possible purveyors of smallpox. Leaving, of the inanimate conveyers, the general consideration of milk and other foods for the subsequent speakers of the evening, and indicating the unlimited possibilities of acquirement of various infections from all sorts of objects with which the child was constantly coming in contact, Dr. Smith laid especial emphasis upon the possibility of easy acquirement of infectious organisms and parasites or their ova from floor contact when the infant reached the crawling stage of its life. A striking clinical illustration of contact infection was mentioned in the case of a child about one year of age, observed by Professor M. B. Hartzell in the Dermatological Dispensary of the University Hospital, and by him mentioned to Dr. Smith. The child had well-developed lupus lesions on the hypothenar eminence of one hand and on one knee. Suspecting from the situation of the lesions that it had been acquired from tubercle bacilli rubbed into the parts from the floor on which the child crawled, Dr. Hartzell readily elicited the fact that the child usually spent a large part of its waking hours on the floor of the room in which its father was confined to bed with advanced pulmonary tuberculosis, and that the child's mode of crawling was definitely on hands and knees. The adherence of bacteria, encysted protozoa, ova of intestinal parasites, as of *Hymenolepis nana* from mouse-droppings, along with harmless dust particles, to the moist and sometimes sticky hands of the crawling infant from the dirty floor, their ready transmission to the alimentary canal when the hands went to the mouth, the infection of the skin of the face and scalp when the dirt was rubbed into these parts, were referred to; and brief reference to acquirement of disease from the ground outside of the house was made. Soiled and infected clothing, bedding and toys as articles liable to convey disease were considered. In closing, Dr. Smith, while acknowledging the possibility of carrying his argument to a ridiculous grade of impracticability, insisted that the keynote of avoidance of infectious and parasitic disease rested in the grade of isolation of the infant and the cleanliness maintained in its surroundings.

Dr. SAMUEL McC. HAMILL read a paper on **How Physicians can aid in Establishing Conditions to Control the Milk Supply, as Recommended by the Mayors' Milk Commission.**

The Relation of Milk to Infant Mortality.—Dr. H. W. CONN, of Wesleyan University, by invitation, read this paper. He said that all dangers in milk were connected with its bacterial content. Milk was not necessarily harmful because it contained very large numbers of bacteria, for buttermilk was known to be good and it had millions of germs in it. But the presence in milk of certain bacteria, those of tuberculosis, typhoid fever, diphtheria and scarlet fever, constituted a great danger.

The occurrence of any of these infections in milk was always due to careless handling of the milk. Besides these, indefinite intestinal troubles of infants in hot weather, characterised chiefly by diarrhoea, were due to bacteria in the milk, for they were more common among children fed on cow's milk, they were controlled by sterilising the milk, they were most common in hot weather, when bacteria in the milk were most numerous, and they might be greatly reduced by rigid milk inspection. Certified milk was beyond the means of the masses. Pasteurisation, properly performed, came nearest to the solution of the milk problem. The milk was thereby kept at 140° F., not higher, for half an hour. It did not change the digestibility or the taste of the milk, but destroyed all pathogenic bacteria.

In opening the discussion Dr. C. J. HATFIELD said that the paper by Dr. Conn had been to him a liberal education upon the milk question. He did not feel qualified to discuss it beyond expressing his interest in, and admiration for, the work which Dr. Conn had carried out. As to the coming milk show, which he had been requested to speak of, he believed that it was the direct result of the work done by the Milk Commission of the Philadelphia Pediatric Society. He traced the influence of this work to the appointment of the Mayor's Milk Commission, the report of which, made public in February, marked a great advance in the campaign for better milk for the city. The milk show was a direct result of this work. The plan was initiated by the Director of Public Health and Charities and the Chairman of the Milk Commission of the Pediatric Society. An efficient organisation had been formed, and a number of committees were working splendidly with every prospect of a successful exhibition. The milk show would be held at 809, 811, and 813, Chestnut Street, from May the 20th to the 27th. There would be an exhibit of dairy productions with models; the care necessary to proper handling of the milk would be shown by photographs; the care of the milk in the home, in cooking, etc., would be demonstrated; moving pictures would be shown at intervals, indicating the transformation of an old-fashioned, dirty dairy to a modern up-to-date plant; exhibits from the United States Department of Agriculture, from the Laboratory of the Department of Public Health of the City and from the Veterinary Department of the University of Pennsylvania would be shown. There would be commercial exhibits of appliances used in caring for milk, also samples of different grades of milk. The programme of lectures and demonstrations, given at noon, at three, and at eight o'clock each day, was most impressive. The lecturers included the most prominent men interested in the production of milk from all parts of the United States. Additional teaching in the subject would be given in the Dairy Institute, to be held at the University of Pennsylvania during three days of the Show week.

Dr. A. C. ABBOTT said that he objected to depending upon bacterial counts as tests for milk, since results were obtained after the milk had been consumed. He preferred microscopic examination of the milks after centrifugalising, so that fifty or more examinations might be made in a morning. By this means many indefinite infections could be discovered. Dr. Abbott had opposed pasteurisation as he considered it an obstacle to obtaining clean milk from healthy cattle. Five years ago no pasteurising plant in this city was turning out milk that was not re-infected after having been pasteurised; that was probably true still. The damage done to milk was always due to ignorance, both of the producer and of the consumer. Dr. Abbott thought that Philadelphia had as good a milk supply as any of the large cities. It is only a question of time until the recommendations made by the Mayor's Milk Commission would be met.

In closing the discussion Dr. CONN stated that he did not believe that milk inspection would eliminate tuberculosis from milk until the time when all cattle could be tested for tuberculosis, and that was a long distance ahead. In the meantime they had to face the problem of what to do before that time came. He did not believe that milk inspection or dairy inspection would ever be able absolutely to eliminate the possibility of the distribution of typhoid fever or other contagious diseases distributed by milk. It was a consideration of these facts that led him to accept pasteurisation.

Société de Pédiatrie, Paris.

May the 16th, 1911. (Bulletin No. 5.)

Bronchio-tracheal Adenopathy.—M. H. BARBIER, continuing the discussion on hypertrophy of the thymus, related the case of a boy, aged 3 months, who had attacks of suffocative cough, recession of thorax, dysphagia, dulness over sternum, and a radiographic shadow in that locality. Tuberculous glands and mediastinitis were found at the autopsy. The author was of opinion that operation is always contra-indicated on account of the presence of mediastinitis in such cases.

Microscopic Examination of the Cerebro-spinal Fluid in Tuberculous Meningitis.—MM. A. NETTER and A. GENDRON stated that Nageotte's method (see last 'Bulletin') gave better results than the examination of the clot obtained by centrifugalisation. In tuberculous meningitis the proportion of cellular elements varied from 60 to 300 per c.mm.; it was usually less in poliomyelitis. The injection of serum did not modify the leucocytic formula in tuberculous meningitis, while a marked change was observed in cerebro-spinal meningitis or poliomyelitis. Koch's bacillus could be found twelve times out of fourteen examinations after the first puncture, but for this the clot of centrifugalisation and the fibrinous adherent deposit must be examined. Cerebro-spinal fluid formed an excellent culture medium for the tubercle bacillus.

The Respiratory Index in Nasal Insufficiency in Childhood.—M. PROSPER MERKLEN showed how the measure of the axillary perimeter in respiration and inspiration was capable of giving valuable information in children who were subject to cough. Diminution of this respiratory index is in favour of nasal insufficiency, although the condition of the thoracic and abdominal viscera was normal and there was no tracheo-bronchial adenopathy.

Fulminating Meningeal Hæmorrhage in a Boy, aged 17 years, the Subject of Glandular Tuberculosis.—M. L. GUINON related this case, which had been under his care since the age of four years. The only symptoms were loss of weight, nervousness, malaise and headache. The physical signs were harsh prolonged expiration at the apices and an extra-cardiac murmur at the base of the heart. Returning home after this last

examination the boy became semi-comatose. Two hours later the coma was profound, the pulse rapid and rhythmic. Lumbar puncture drew off a bloody fluid under tension; death took place shortly afterwards. The author was of opinion that there was a tuberculous lesion of an artery which ruptured during the respiratory efforts made during examination.

VINCENT DICKINSON.

Institut de Puériculture, Paris.

At the inaugural ceremony on June the 8th Dr. Variot delivered an eloquent address before a distinguished audience. The Institute is situated within the grounds of the Hospice des Enfants Assistés, in which Parrot carried out his well-known work on athrepsy, and was succeeded by Prof. Hutinel, Dr. Variot's immediate predecessor. The Institute is to serve two purposes: first, as a centre for scientific study and research, and secondly, as a school for the popularisation of infantile hygiene. The first object is to be attained by utilisation of the unrivalled clinical material within the hospital, which is also provided with special laboratories for pathological anatomy, bacteriology and radiology. Another laboratory for milk investigation is soon to be added. The second object Dr. Variot hopes to realise by the establishment of a milk *dépôt* similar to the "Goutte de Lait," which he has directed for many years at Belleville, and by the institution of a regular course of lectures, including practical demonstrations to mothers, school teachers, and girls above the age of twelve years.

Abstracts from Current Literature.

Medicine.

Diphtheria in an infant ('*Arch. f. Kinderheilk.*,' 1910, LIV, p. 182).—**G. Wolkenstein** was called to see a child aged 7 days, who for the last forty-eight hours had begun to cry as soon as it was put to the breast. Membrane was found on both tonsils. There was slight respiratory obstruction. Rectal temperature 100°. Fifteen hundred units of antitoxin were injected, and camphor and valerian were given internally. Diphtheria bacilli were subsequently found. On the day following the injection the membrane had almost disappeared, the pulse and temperature were normal, and the child took the breast well. Recovery occurred without complications.

J. D. ROLLESTON.

Diphtheria of vulva ('*New York Med. Journ.*,' 1911, I, p. 24).—**L. L. Smith** was called to see a girl, aged 3 years, who could not pass urine. The orifice of the urethra and the labia minora were inflamed and swollen. Urine removed by catheter was normal. Temperature 100° F. Fauces and nostrils clean. The next day there was slight muco-purulent

vaginal discharge, examination of which showed an absence of gonococci. The following day diphtheria bacilli were found in pure culture in a smear taken from the labia minora: 2000 units were injected, and within twenty-four hours the urinary symptoms had begun to subside; 5000 units were subsequently given, and in a day or two the symptoms had entirely subsided. A greyish-white membrane separated from the nymphæ and labia majora. Subsequent recovery was uneventful. The child had probably been affected by using the same bath-towel as a visitor who had been exposed to diphtheria, and had been suffering from a "cold" during her stay.

J. D. ROLLESTON.

Primary diphtheria of the external urinary meatus ('*Practitioner*,' 1910, II, p. 724).—**Alfred Howell** records a case of the above in a little girl, aged 9 years. The child was brought for advice regarding what the mother thought was a "blood-clot" in the front passage. Local examination revealed a purplish, angry-looking swelling, occupying the position of the external urinary meatus and its immediate neighbourhood, rounded in outline, reaching below the base of the hymen and completely hiding the latter. The centre of the swelling was depressed and admitted with difficulty a small catheter. Urine was drawn off and showed nothing abnormal. Several punched-out ulcers were to be seen around the margin of the depression, and a thin, sanious discharge exuded from the whole surface; no false membrane was seen. Constitutional symptoms were absent, and while the swelling was tender to the touch there was no complaint of pain, even during or after micturition. There was no history of any local injury or previous disease. Rest in bed, a sedative lotion locally, and an alkaline mixture internally failed to effect any improvement. Bacteriological examination demonstrated the presence of the Klebs-Loeffler bacillus. Two-thousand units of antitoxin were injected and the condition subsequently quickly cleared up. Apart from slight redness of the part, which persisted for some time, the child showed no complications or sequelæ. The author thinks the following points worthy of note: (a) the source and localisation of the infection; (b) the absence of constitutional symptoms; (c) absence of pain and presence of relatively little tenderness.

J. ALLAN.

Unusual localisations of diphtheria ('*Le Méd. Prat.*,' July 26, 1910; *abst.* '*Med. Rev. of Rev.*,' 1910, p. 606).—**Terrien** has called attention to an unusual localisation of diphtheria. He refers to the involvement of adenoid vegetations in the pharynx in the diphtheritic process. The following symptoms were noted: There was a marked coryza with a profuse discharge, which soon became sanious; there followed symptoms of croup and of diphtheritic bronchitis with progressive and continuous dyspnoea. In addition there was interference with nasal respiration, hoarseness, pain in the ear, swelling of the glands in the neck, a rapid pulse, and great prostration. In the presence of such symptoms diphtheria should be suspected, cultures taken from the pharynx and the nose, and, if possible, rhinoscopy performed.

J. ALLAN.

Relapse of diphtheria after measles ('*Bull. et mém. de la Soc. Méd. des Hôp. de Paris*,' 1911, xxxi, p. 254).—**L. Martin** and **H. Darré**.—A boy, aged 3 years, was admitted to hospital on January 11, 1911, with mild laryngeal diphtheria, which was treated with antitoxin, and was discharged on the 28th. On February 12 he developed measles, and on the 15th severe faucial

diphtheria, for which he was again injected. General urticaria appeared on the 16th, and a mixed urticarial and scarlatiniform eruption on March 2. The relapse of diphtheria is attributed to the fresh lesions of the faucial and laryngeal mucosæ produced by measles favouring the growth of diphtheria bacilli.

J. D. ROLLESTON.

Erosion of the common carotid in diphtheria (*Inaugural Dissertation, München*, 1909).—O. Lukinger.—A boy, aged 6½ years, was admitted to hospital on November 5 with severe faucial diphtheria. He had been ill three days. There was much albumin in the urine. On November 6 a peculiar hæmorrhagic vesicular eruption appeared first on the skin and then on the buccal mucosa. No improvement followed two injections of antitoxin. On November 10 he had a severe attack of dyspnoea. Intubation produced relief, but tracheotomy had to be performed the next day. On the 14th the tube was left out, but had to be replaced the next day. On the 17th the tube was again removed. The wound was then gaping and fetid pus was escaping from the trachea. About an hour after the removal of the tube a thick gush of blood poured out of the trachea and death took place in eight seconds. Necropsy: Erosion of the common carotid at its origin by an abscess cavity which communicated with the trachea. Deep ulceration of larynx, superficial ulceration of trachea, aspiration of blood and pus into lungs. Perforation of subpleural abscess of left upper lobe with circumscribed fibrino-purulent pleurisy. Subacute nephritis, œdema, and cloudy swelling of liver. Erosion of the neck-vessels has been recorded in scarlet fever, but never before in diphtheria. [The description of the case resembles one of scarlet fever rather than diphtheria. No mention is made of a bacteriological examination.—J. D. R.]

J. D. ROLLESTON.

Return cases of diphtheria and scarlet fever (*Hospitalstidende*, 1911, LIV, p. 441).—Sørensen.—7037 diphtheria patients discharged from Blegdøms hospital during the period 1898–1908 yielded a return case percentage of 1·16. In the first quinquennium, when diphtheria was more prevalent in Copenhagen than subsequently, there were 54 return cases or 1·32 per cent. out of 4088 discharges; during the following six years there were 28 return cases or 0·95 per cent. The majority of the return cases were admitted four to twelve days after the discharge of the primary cases. Seventy-three out of 81 return cases had been free of diphtheria bacilli in the two successive cultures taken before their discharge. Among 8309 scarlet fever patients discharged in the period 1902–1909 the return case percentage was 3·7, or 305 cases, among whom the death-rate was 7 per cent. as contrasted with a mortality of 2·5 per cent. among the total cases. All the diphtheria return cases recovered.

J. D. ROLLESTON.

The high death-rate from diphtheria in the United States (*Med. Record*, 1911, I, p. 568).—E. C. Hill.—The death-rate from diphtheria in New York State is four times greater than in Paris, and in New York City it is higher still. Thus from 1902 to 1909 it has ranged from 28·4 per cent. in 1905 to 39·2 per cent. in 1903 in New York State, and in New York City from 37·1 per cent. in 1908 to 57·0 in 1904, as compared with a mortality in Paris varying from 7 to 20 per cent. in the same period. A similar high death-rate from diphtheria prevails throughout the United States. The highest mortality in 1908 occurred at Washington, where it was 35·4 per

cent.; the lowest mortality in the same year was 11·34 per cent. at Vermont. The high death-rate is attributed to late and ineffective prophylactic measures, late diagnosis, lack of faith in antitoxin, and insufficient dosage in severe cases. Five illustrative cases are recorded.

J. D. ROLLESTON.

Incidence of diphtheria in India (*Indian Med. Gaz.*, 1911, XLVI, p. 175).—C. J. Fox, judging from the number of positive findings in the examination of throat swabs sent to the Kasauli laboratory during the last five years, thinks that diphtheria is much commoner in India than is supposed, especially as the swabs were chiefly from severe cases and not from those which originated them. He records six cases, five of which were examples of membranous rhinitis and one of a mild angina. The mortality from diphtheria in India is much less than in Europe, where the disease is more virulent.

J. D. ROLLESTON.

Scarlet fever in Philadelphia (*Med. Record*, 1910, II, p. 1053).—A. K. Sallom. During the past twelve years 32,317 cases of scarlet fever occurred in Philadelphia. The mortality ranged from year to year from slightly less than 3 per cent. to a little over 7 per cent. The average morbidity in January was rather high, falling in February, rising in March, and falling again in April. The highest number was reached in May, and the lowest in July. The morbidity then rose slowly at first and then more rapidly as the cold weather appeared.

J. D. ROLLESTON.

Scarlatina and lactation (*Arch. de méd. des Enf.*, 1911, XIV, p. 124).—Buffet-Delmas records a case of severe though uncomplicated scarlatina in a nursing woman who was nevertheless able to carry on lactation uninterruptedly. The child, aged 1 month at the onset of his mother's attack, suffered no ill effects, and his weight week by week corresponded with that of a child suckled under the most favourable conditions.

J. D. ROLLESTON.

Scarlatinal thyroiditis (*Monatsschr. f. Kinderheilk.*, 1911, IX, p. 560).—J. Bauer records three cases occurring in very mild scarlet fever. (1) Boy, aged 10 years. Enlargement of left lobe of the thyroid appeared on the forty-sixth day, gradually subsided in the course of ten days, but was still palpable on his discharge from hospital on the sixty-sixth day. (2) Girl, aged 18 years. Enlargement of the thyroid, especially the right lobe, on the eleventh day. This slowly subsided, but was still perceptible on her discharge on the forty-third day. (3) Boy, aged 13 years. Enlargement and slight tenderness of the right lobe on the seventeenth day. In none of the cases were there any cutaneous redness, dyspnoea from pressure on the trachea, nor circulatory disturbance.

J. D. ROLLESTON.

Albuminuria in scarlet fever and its relation to diphtheria (*Thèses de Paris*, 1910-11, No. 1).—R. J. M. Pougau.—Late albuminuria in scarlet fever is often of diphtheritic origin, as is proved—(1) by the frequency of concomitant diphtheria, the clinical signs of which are confirmed by bacteriological examination; (2) by the frequency of diphtheria bacilli in the upper respiratory passages of scarlet fever patients without appreciable clinical signs; (3) by the effects of antitoxin treatment. Thus in a series of 128 scarlet fever cases treated with prophylactic injections, only two patients, or 1·56 per cent., developed albuminuria, as compared with eleven patients,

or 9.16 per cent., out of 120 not so treated. In the presence of existing albuminuria curative doses of antitoxin should be administered every four days. The late albuminuria of scarlet fever is not, however, always of diphtheritic origin, for it may occur in spite of prophylactic treatment and persist after repeated injections. The thesis is based on observations in Lesage's wards at the Hôpital Hérold, and contains the histories of twenty-five cases, all but five of which are original.

J. D. ROLLESTON.

The association of measles and scarlet fever (*Paris Méd.*, 1911, 1, p. 191).—V. **Hutinel** finds that measles and scarlet fever can be associated in the following ways: (1) Measles may precede scarlet fever. Some authorities consider that the gravity of the latter is not thereby increased; others hold the opposite opinion. Hutinel inclines to the former view and quotes five cases in support of it, but at the same time he states there are exceptions, and instances two cases in which death rapidly occurred after the scarlet fever rash appeared. He finds this is most likely to occur if measles has been complicated by broncho-pneumonia. (2) Measles and scarlet fever appearing simultaneously. This association is not necessarily of serious omen. Broncho-pneumonia is rare in cases of this nature. (3) Measles following scarlet fever. Most clinicians admit that this association is serious, all the more so the nearer measles follows scarlet fever, but this view is not universal. Hutinel has had four deaths in fifteen cases. The serious cases were nearly always those in which measles showed itself four to eight days after the scarlatinal eruption; if, however, a long interval occurs, the result is usually favourable.

F. R. B. ATKINSON.

Epidemic of abnormal varicella (*Thèses de Paris*, 1910-11, No. 201).—P. **Le Roy** records an epidemic of thirteen cases in the crèche at Nanterre among children aged from four months to two years. In two the skin eruption was entirely papular, though one of the two showed a typical vesicle on the palate. In the other cases the eruption was chiefly papular, but the vesicles, though scanty, were quite characteristic. The other abnormalities observed were otitis media (1 case), abscess of little toe (1 case), and scarlatiniform rashes (2 cases). All the children recovered. The thesis contains the histories of twenty-four cases: thirteen are original, and eleven are examples of scarlatiniform rashes in varicella taken from the literature.

J. D. ROLLESTON.

Renal and articular complications of varicella (*Semaine Méd.*, 1911, xxxi, p. 140).—**Rosenblatt** and **I. Bienstock**.—a youth, aged 16 years, who three years previously had had severe scarlet fever complicated by nephritis, fell ill with varicella. The day following the appearance of the eruption the urine contained a large quantity of albumin, and on microscopic examination granular casts and red cells were found. The patient was somnolent and apathetic for ten days, during which his temperature ranged from 99.4° to 102° F. The albumin gradually diminished, and in eighteen days only a trace was left. The temperature then suddenly rose to 101.4° F, and there was marked swelling of the right radio-carpal joint. For three days the temperature ranged from 99° to 102° F. Shortly afterwards the right knee-joint became affected. Examination of the blood showed a well-marked leucocytosis, but no micro-organisms. Subsequent recovery was uneventful.

J. D. ROLLESTON.

The contagiousness of whooping-cough ('*Gaz. des Hôp.*' 1911, LXXXIV, p. 69.)—**Lesage and Collin**.—Every case of whooping-cough is accompanied by a rise in the specific gravity of the urine and by an increase in the uric acid, as well as by lymphocytosis and characteristic expectoration. The end of the contagious period corresponds clinically with the cessation of expectoration, a marked diminution in the number of the nocturnal paroxysms, and a return to normal of the blood and urine. The duration of the isolation period can thus be settled. There is no justification for regarding as a prolonged attack a morbid state which is characterised merely by the persistence of the whoop. In the absence of a definite relapse the persistence of the whoop beyond a month if the blood and urine are normal indicates that the cough has become a tic for which firm moral treatment is required. **M. Regnault** ('*Thèses de Paris*,' 1910-11, No. 238), in a thesis in which the above views are incorporated, records thirteen illustrative cases observed in Lesage's wards at the Hôpital Hérold.

J. D. ROLLESTON.

A case of Hymenolepis nana ('*Indian Med. Gaz.*' 1910, XLV, p. 259).—**J. Davenport Jones** reports the case of this rare tape-worm in a European boy, aged 5 years. Treatment with filix mas in capsules resulted in the expulsion of a large number of worms, probably over one hundred. The worms were best seen and isolated by shaking portions of the fæces with water in a glass beaker held against a black background. In most of the specimens the heads were broken off, but the author found a perfect head, which proved to be a typical *Hymenolepis nana*. The worms are very small and easily overlooked, and are not expelled by the administration of santonin.

JAMES E. H. SAWYER (Birmingham).

Tape-worm in an infant aged 10 months ('*Brazil Medico*,' August 22, 1910, p. 313).—**Sarabia y Pardo** describes the infant as having been throughout suckled by the mother. It gained weight regularly till the fifth month, when it commenced to lose without any apparent cause, until a portion of the *Tænia* was found in the stools. This was found to be *Tænia solium*. After treatment by small repeated purgatives the infant soon commenced to recover. The parasite was probably conveyed in a drink of water on some occasion.

M. D. EDER.

Tapeworm in a baby ('*Arch. de Méd. des Enf.*' 1911, XIV, p. 525).—**J. Comby** records a case of *Tænia saginata* in a female child, aged 9 months, who had been infected by the ingestion of raw beef-juice. Extract of male fern was prescribed and several segments were passed, but the head was retained until an emulsion of fresh pumpkin seeds had been given. The rarity of tapeworm in the first year of life is shown by the fact that this was the first case that Comby had met with in thirty years' practice.

J. D. ROLLESTON.

Numerous ascarides in several members of the same family ('*Jahrb. f. Kinderheilk.*' 1911, LXXIII, p. 352).—**I. Péteri**.—In the course of a few months the first child evacuated 34, the second 175, the third 449, and the fourth 59 ascarides in the stools or vomit. The children had probably been infected by playing in a dirty courtyard. Their mental and physical development was not affected, and there was hardly any constitutional disturbance.

J. D. ROLLESTON.

Polyarthrititis of obscure origin (*Indian Med. Gaz.*, 1910, XLV, p. 344).

Drury reports febrile polyarthrititis in two native Indian children which was not influenced by salicylates. In one case Major L. Rogers cultivated from blood obtained from the joints a minute staphylococcus which grew in colonies resembling colonies of streptococcus. Vaccine treatment of this patient was at first followed by a slight improvement, but as soon as the dose of vaccine was increased the articular pain and the fever increased. The vaccine treatment was stopped. Eventually the patient, a boy, aged 12 years, improved very considerably on guaiac and passive movements.

H. D. ROLLESTON.

Chronic rheumatoid arthritis of childhood (*Arch. of Pediat.*, 1910, XXVII, p. 652; and *Trans. Amer. Ped. Soc.*, 1911, XXII, p. 72).—H. Koplik details cases, with general remarks on this condition and its relation to other joint affections in children. He excludes all articular conditions which ordinarily complicate infectious diseases and gonorrhœa, and the results of syphilis and tuberculosis. He concludes that the condition is infective in origin, as shown by the mode of onset, the enlargement of the spleen, lymphatic glands and liver, the fever, and by the presence in some instances of leucocytosis and cutaneous hæmorrhages. He recognises that enlargement of the lymphatic glands is not absolutely constant, and that the enlargement of the glands, spleen, and liver is mainly an early phenomenon and may disappear. This glandular enlargement is much more marked than in adult rheumatoid arthritis. Emaciation and anæmia are characteristic, and exophthalmos may occur. He records in detail five cases—three in males and two in females—which were fully examined as regards the presence of syphilis and tuberculosis by tests which showed their absence. In four out of these five cases the lymphatic glands were enlarged and in one there was a leucocytosis of 20,000. The literature is quoted, and full credit given to Professor Still.

H. D. ROLLESTON.

The chronic polyarthrititis of childhood (*La Pediat.*, 1911, XIX, p. 81).—Prof. C. Cattaneo contributes an original paper on this subject based on four cases under his care, derived from more than 15,000 patients in the first decade of life. The numerous designations given to this disease, such as chronic polyarthrititis, nodular rheumatism, progressive ankylosing arthritis, Still's disease, etc., have in no way given any clear idea of it. In true chronic polyarthrititis there is never complete resolution, although some improvement may occur, and this, according to the author, constitutes the fundamental nature of the disease. It is true that syphilitic chronic polyarthrititis may be cured by specific remedies, while the other is not; but this is a therapeutic criterion, and not a difference in clinical aspect which distinguishes them. Still places in a class by itself a form, of obscure origin, in which, besides the articular lesions, there is enlargement of the glands and spleen. Chronic polyarthrititis of toxic origin has been described under the name of "chronic thyroid rheumatism" by Pathon and others. Lévi and Rothschild, who have collected all that is known as regards its pathology, express the opinion that thyroid disturbance may have some pathological importance in chronic polyarthrititis by altering the soil, by which it becomes possible for toxic causes to determine the chronic articular lesions. The author does not agree with Poncet's view that every case of primary chronic polyarthrititis is a tuberculous rheumatism. The author's cases were aged 2, 6, 4, and 8 years, and are reported in full. In the majority of

the cases the articular condition was secondary to scarlatina or measles, indicating that some pyogenic infection was probably the cause. The pathological changes did not allow of any substantial differentiation between the various cases, whether primarily or secondarily chronic, except in rare instances in which tuberculous lesions were found. The author asks whether there exist types of chronic polyarthritis characterised by various modes of origin, clinically different in the condition of the articular lesions, complications, course, and termination. He considers they may be divided into two classes, one in which the first manifestations are in the small joints, and the other in which the large joints are affected from the beginning. In the first type the course is more rapid, terminating in ankylosis and deformity; in the other the course is milder, without great deformity, and with possibility of improvement, or even arrest of the morbid process.

VINCENT DICKINSON.

Surgery.

Hereditary cranio-cleido-dysostosis ('*Lancet*,' 19'0, II, p. 1466).—**Duncan C. L. Fitzwilliams** analyses sixty cases, two of which came under his personal notice, while the rest were all that could be collected from the literature. The hereditary nature of the disease is well shown, eight families supplying no less than thirty-one affected individuals. The facial and cranial changes are discussed, and considered to be due to the same cause that produces the characteristic features in hydrocephalus, namely that the base of the skull fails to develop with the increased growth of the brain and is accommodated by the opening of the vertex. The musculature of the altered shoulder-girdle is given at length. The state of the clavicle is analysed, and shows that while the sternal portion is hardly ever absent the acromial portion is almost invariably lacking. The ligamentous prolongations, which replace the acromial portion in the majority of cases, do not extend to the acromion but go to the coracoid process. These facts throw considerable light on the development and morphology of the clavicle. This bone has long been suspected of being the result of the fusion of two separate elements, of which one is preformed in cartilage and the other in membrane. The disease hereditary cranio-cleido-dysostosis retards and prevents the development of bones preformed in membrane. The probable fate of the coracoid and precoracoid bars of cartilage in the primitive shoulder-girdle is then discussed. The writer shows that the inner two thirds of the clavicle, the coraco-clavicular ligament, and the base of the coracoid process itself are probably all part of the same bar, while the tip of the coracoid process and the bicornuate ligament are probably parts of a second bar. In one of the author's cases the first of these bars was intact and stretched from the sternum to the glenoid cavity. The dissections performed in this disease and the method of ossification of the coracoid process both tend to support the idea that the inner two thirds of the clavicle, the costo-coracoid ligament, and the base of the coracoid process are the representatives of the true coracoid, while the bicornuate portion of the costo-coracoid membrane and the tip of the coracoid process represent the old precoracoid. The positions of the two bars are slightly modified by muscular attachments, while the acromial third of the clavicle is of a more recent ancestry, membranous in origin, and possibly related to the dermal plate of lower vertebrates. Other possibilities are discussed, but seem to be less likely than the conclusions mentioned. As to the cause of the disease nothing definite can be said; its

relations to achondroplasia are mentioned, and the suggestion thrown out that both may be due to a lack of some chemical substance or enzyme which is needed for sound ossification.

AUTHOR'S ABSTRACT.

Case of femoral dysostosis with obesity (*La Clin. Infant.*, 1911, ix, p. 230).—**MM. Variot and Chatelin** showed this case at the Soc. Méd. des Hôpit. The girl was aged 15 years and measured 1.28 m. (average 1.54 m.) and weighed 38 700 k. (average 26 k.). The diminution of height was due entirely to the shortness of the femora, which were also curved. There was an over-development of fat, chiefly on the chest, stomach, and thighs. Breasts small; menstruation absent. Intelligence normal. Radioscopy showed slight enlargement of the sella turcica, but no lesions characteristic of achondroplasia. The arms were normal. There was consolidation of the femoral epiphyses, which usually does not take place till the age of twenty.

VINCENT DICKINSON.

A case of fragilitas ossium (*Zentrabl. f. Kinderheilk.*, 1910, xv, p. 504).—**A. H. Meyer** exhibited at the Danish Pædiatric Society a child, aged 11 months, suffering from rickets and severe colitis who had been fed on a mixture of water-gruel and pasteurised milk. Fractures were present in all the diaphyses of the extremities. The X rays showed atrophy of the bones, consisting in deficiency or maldevelopment of the compact layer and feeble development of the spongy layer, the trabeculae of which were scanty. There was no sign of Barlow's disease.

J. D. ROLLESTON.

Idiopathic osteopsathyrosis (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 545).—**S. Miura** records a case in a Japanese girl, aged 10 years. There was no family history of brittle bones. Since her first year she had had nineteen fractures, the deformities resulting from which rendered standing and walking impossible. Rickets, osteo-malacia and Barlow's disease could be excluded. The X rays showed considerable thinning of the compact layer, rarefaction of the spongy layer, and normal epiphyses.

J. D. ROLLESTON.

Fracture of the scapula in a child (*Paris Méd.*, 1911, i, p. 451).—**F. Jacoulet** describes a case of this rare condition in a boy, aged 13 years, resulting from a fall from a height of from five to six metres. The fracture crossed the sub-spinous fossa. The author quotes Végas and Joye, who found, out of 500 fractures, only one of the scapula, in a child aged 4 years. The youngest case seems to be Hill's (six months). The fractures are always caused by direct violence. The prognosis is favourable. The treatment consists in the application of a bandage, keeping the parts immobile, with the arm slightly backwards.

F. R. B. ATKINSON.

Treatment.

The intra-venous injection of antitoxin in diphtheria (*Die Therapie der Gegenwart*, 1910, LI, p. 346).—**H. Tachau**.—One hundred cases were treated by this method in the Frankfort Municipal Hospital in the course of the year. In 78 the diagnosis of diphtheria was confirmed by bacteriological examination. The usual technique was employed. Special care was taken to inject slowly. Exposure of the veins was not undertaken, and the method was therefore not adopted in small children

in whom direct puncture of the vein was impracticable; 3000-4500 units were given in the mild, and 6000-9000 units in the severe cases. As a rule only one injection was given; only a few very severe cases received a second injection on the following day. Nine of the 78 cases died—a mortality of 12·8 per cent., as compared with one of 14 per cent. among 170 cases treated subcutaneously. These figures do not speak in favour of the intra-venous method when it is considered that small children in whom diphtheria very frequently takes a more unfavourable course were almost all treated subcutaneously. The cause of death was either toxæmia or circulatory and renal complications, which intra-venous injections had therefore no power to prevent. In mild cases the intra-venous method did not tend to shorten the course of the disease, the clearing away of the membrane and the disappearance of bacilli from the throat being no more rapid than in cases treated subcutaneously. That the intra-venous method was not unattended by risk was shown not only by a rise of temperature following injection in about half the cases, but also by alarming symptoms of collapse occurring in three cases, though these had received no previous injection, so that anaphylaxis could be excluded. In one case an erythema developed which was regarded as a vaso-motor disturbance associated with the collapse rather than as a serum eruption. Tachau concludes that intra-venous injection has no therapeutical advantages over subcutaneous injection, but on the contrary has some serious drawbacks. He has therefore abandoned the method, especially as it is more complicated than the ordinary one.

J. D. ROLLESTON.

Contribution to the study of human anaphylaxis (*Riv. di Clin. Pediat.*, 1910, VII, p. 915).—U. Calcaterra describes three cases of diphtheria treated by serum, first by subcutaneous and then by intra-spinal or intra-venous injections. One died. In all, the phenomena of anaphylaxis were observed, and the author concludes that intra-spinal injections should be used with the greatest caution, especially in diphtheria, not only when the patients have been treated by serum some time before, but even two or three days previously.

VINCENT DICKINSON.

Intra-spinal serotherapy in diphtheria (*Riv. di Clin. Pediat.*, 1910, VII, p. 981).—C. Francioni confirms some of Calcaterra's views (*ibid.*, p. 915). As the intra-spinal method is directly efficacious in preventing toxic lesions of the nervous system, he is of opinion that in studying statistics account should not merely be taken of recoveries or deaths, but in cases which survive attention should especially be given to the more or less pronounced character of the late paralytic manifestations and an estimate formed from them of the efficacy of the treatment. The task of curing the degenerative visceral lesions, which are those most frequently responsible for the rapidly fatal issue in the more toxic forms, must be still reserved for hypodermic, intra-muscular, or better, intra-venous sero-therapy. According to the author, the only effect of intra-spinal injections is to render less intense and dangerous the outbreak of late paralytic manifestations, or at least those of them which are attributable to toxic lesions of the nervous system. Hence the intra-spinal method is only required in the most serious cases of unfavourable prognosis in which we can foresee the disappearance of grave paralytic conditions at a later period.

VINCENT DICKINSON.

The results obtained in scarlet fever with "scarlatin Marp-mann" (*Allg. Wien. med. Zeit.*, 1910, LV, p. 448).—**Hartung** has collected from 312 medical men 1915 cases where the remedy has been used, with a mortality of 47, or 2·4 per cent. This contrasts favourably with the 5 or 6 per cent.—usual mortality. Out of the 312 doctors only five were adverse, but there was only one case of any untoward effect where urticaria set in. There was general agreement that the earlier the use of the remedy the more clearly marked was its value. The most noticeable effects were the reduction of the temperature, the strengthening of the pulse and quieting of the patient. Prophylactically the antitoxin was used for 2126 children where infection was feared; out of these 68 children were attacked by scarlet fever—among these 68 were two deaths. These figures must be regarded as extremely favourable to the more extended use of the preparation both as a preventative in epidemics and as treatment in cases of illness.

M. D. EDER.

Treatment of whooping-cough in infants (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 728).—**Mehnert**, since 1906, has found that vaccination has a curative effect upon pertussis in hitherto unvaccinated infants aged from three to nine months. During the development of the pustules the cough becomes less severe and disappears entirely within a fortnight (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1908, v, p. 218). J. D. ROLLESTON.

Treatment of normal whooping-cough (*Paris Méd.*, 1911, I, p. 563).—**P. Nobécourt** describes some of the remedies not usually known for this disease. Weill and Martin found good results from the inhalation of quinoleine, a substance extracted from coal-tar or prepared synthetically. Ten to thirty drops are added to 100 c.cm. of boiling water and inhaled three or four times a day up to twenty minutes. Internally a saturated solution of fluoroform is well spoken of by Tissier. Two gr. of 8 per cent. fluoroform is given three times a day in the following doses: Up to one year, 10 to 15 drops; from one to three years, 15 to 20 drops; over three years, 20 to 30 drops, and in addition after each attack of coughing as many drops as months or years of the child's age: 60 to 80 drops can be given *per diem* in the newly-born up to 150 to one year and to 20 grm. to children over three. Anti-diphtheritic serum, or 0·10 gr. of anti-tetanic serum, have also proved efficacious. The author devotes the remainder of the article to a consideration of the usually employed remedies and sums up the treatment as follows: Inhalations of water medicated with various substances, as quinoleine, etc., internally, belladonna, quinine, or antipyrin in increasing doses. If the fits of coughing are violent, inhalations of oxygen, chloroform or ether during the attacks, and if very severe, morphia injections or chloral. Hygienic measures are essential.

F. R. B. ATKINSON.

Reviews.

THE DISORDERS OF POST-NATAL GROWTH AND DEVELOPMENT. By HASTINGS GILFORD, F.R.C.S. London: Adlard and Son, 1911. Royal octavo; pp. xxii + 727, with 65 figures. Price 15s. net.

MR. HASTINGS GILFORD is already widely known in connection with his writings on ateleiosis and progeria, and naturally, therefore, his ideas con-

cerning the disorders of growth and development, as expressed in the present volume, will excite great interest amongst all those in any way interested in the subject. It is at least no exaggeration to say that every medical man should be interested in the subject, for Mr. Gilford has searched all the various departments of pathology and biology to illuminate it. His comparisons are always striking and his generalisations are far-reaching. For instance (p. 107), he points out that the major variation of albinism in an English fox would constitute to all intents and purposes a disease, for it would render the animal conspicuous, attract the attention of the hounds, give warning to the animals upon which it preys, and therefore lead, just as surely as heart disease, etc., to defective nutrition and an early death. How clearly expressed (p. 28) is the comparison of the cells and organs of the human body to unicellular and more complex organisms living together for mutual advantages. "A kidney may, in short, be regarded as comparable with an organism of high development, one of a series which is shut off from the general somatic system by abrupt boundaries, working for and owing allegiance to the whole body, coming into touch with it when the general good is concerned, but in other respects living independently." Another instructive comparison is made on p. 34, namely, that between the state of pregnancy and the normal pre-menstrual state. In an early part of the book the toxins produced by pathogenic microbes within the body, which give rise to enteric fever and other zymotic diseases, are compared to alcohol, strychnine, and other toxins and drugs produced by non-parasitic plants. This latter group both cause disease and are used for the cure of disease. Might one not go further and compare them to antitoxins and other substances (produced by cells of the animal body), which help the body to resist disease and maintain its normal functions? Is it not possible that antitoxins of this nature may sometimes have a harmful as well as a salutary effect? It has, we believe, been suggested that the degenerative changes of tabes dorsalis and general paralysis may be due to the prolonged action of syphilitic antitoxins.

Mr. Gilford's subject, as discussed by him, is such a vast one that in a short notice like this it is quite impossible to give an adequate idea of the scope of the work. Those who jump to the conclusion that the book deals exclusively or even chiefly with ateleiosis and progeria, for which the author is already so well known, will find themselves greatly mistaken. Every medical practitioner should read the book for himself—not read hurriedly through it, but read in it at spare moments, and thus gradually finish reading it at his leisure, in which case it will certainly become for him a source of much pleasure as well as of instruction. The author might, perhaps with advantage, have devoted a little more space than he has done to the modern observations on the relation of the adrenal bodies and the hypophysis cerebri to disorders of general growth and development other than acromegaly and gigantism.

F. P. W.

THE MEDICAL DISEASES OF CHILDREN. By REGINALD MILLER, M.D.,
M.R.C.P. Bristol: John Wright & Sons, Ltd., 1911. Pp. 541. Price
12s. 6d. net.

DR. R. MILLER has written a book which deserves to become popular with the profession, inasmuch as it is a very complete and lucid manual of the medical diseases of children. The whole subject is treated in a very able manner, and the fact that the author has drawn from his own experience

and from that of the most modern writers ensures that the reader will find the current ideas embodied in the work. This alone should render the book useful to students and practitioners alike.

Dr. Miller writes in an incisive, though not too dogmatic, style. His descriptions are convincing and avoid being prolix, while the hints which he gives as to treatment and technique will be found not the least useful part of the book. The value of the text is enhanced by a large number of photographs, which are in every way admirable, and serve to impress the conditions depicted the more vividly upon the mind.

As in most works on children the book opens with sections on the Examination of children and on Development and Feeding, which are clear and simple. Then follow the various diseases under their appropriate headings. Where there is so much that is good it is difficult to single out any part for special mention, but perhaps the section on Infective Diseases is the best of all. In this the author deals with pneumococcal, tuberculous and rheumatic infections, inherited syphilis, diseases caused by the meningococcus and gonococcus, acute poliomyelitis and the infectious fevers, to mention only some of the more important. At the end are appendices on Dietetic and Therapeutic Measures and on Societies and Institutions aiding invalid Children, which form handy and reliable sources of reference.

The get-up of the book is in every way excellent. It is printed in clear type and on glazed paper; the latter, however, has the disadvantage of making the book somewhat heavy. The photographs, to which reference has been already made, are a prominent feature of the work, and great skill has been shown in their reproduction.

Altogether the book is one which we can thoroughly recommend.

T. R. W.

LA POLIOMYÉLITE ÉPIDÉMIQUE. By Dr. GEORGE SCHREIBER. Paris: G. Steinheil, 1911. Price 10 francs.

THIS work is divided into two parts: the first deals with the disease described by Heine and Medin, and its relation to the "medullo-virus" of Landsteiner and Popper; the second with meningo-myelitis and meningitis in its relation to the "medullo-virus" of Landsteiner and Popper.

The first chapter of Part I discusses the use of the name "poliomyelitis." The author considers the name should be retained and regarded as a syndrome characterised by the production of paralysis, due to an affection not exclusively but predominantly of the anterior horns and grey matter, induced most frequently by the "medullo-virus" of Landsteiner and Popper—an agent capable of attacking isolated individuals, but causing more often an epidemic, sometimes widespread, sometimes limited, and affecting different portions of the nervous system, giving rise to various forms which are known under the title of Heine-Medin's disease. The work deals with the history of the disease, the history of the pathological anatomy, the history of the epidemiology, the history of the clinical manifestations, and the history of the bacteriology of the disease.

A chapter is devoted to the experimental work based on the observations of Landsteiner and Popper, Flexner and Lewis, Leiner and Wiesner, and Levaditi. The clinical forms of the disease in the monkey are described, and their similarity to those in man demonstrated.

The nature of the virus is then considered. The virus is shown to be filtrable, will resist glycerination for months, and desiccation for fifteen days. The virus is killed by exposure to temperatures of 40-50° F. for half an hour.

but resists cold of — 8° C. The organism cannot be cultured, is destroyed by various chemicals *in vitro*, and urotropin seems to exercise a destructive action on the virus *in vivo*.

Certain forms of monkey are susceptible to infection, but guinea-pigs, mice, rats, dogs, cats, sheep, pigs, goats, horses, fowls, and pigeons are insusceptible. Krause and Meinicke have produced paralysis in rabbits, but others have failed to do so in this animal.

The virus can be introduced into the system by the peritoneum, the brain, subcutaneously, intra-venously, by the digestive tract and the respiratory passages if injured. It is striking that no case of contagion took place in monkeys even when in the closest contact, and this is attributed to the integrity of the mucous membrane.

It is shown that the virus tends to reach the central nervous system by the path of the nerves, and that if a peripheral nerve is infected and then the nerve divided infection does not occur.

The elimination of the virus is probably by the nasal mucous membrane. The saliva, the urine, the bile and the feces cannot be shown to contain the virus.

It is shown that immunity is easily produced in the monkey.

Chapters on the pathological anatomy and aetiology follow. With regard to the aetiology it is mentioned that the disease more frequently attacks boot-makers' children than those of any other occupation.

A list of cases in which two or more members of a family or household were affected is given. Further chapters deal with the clinical forms, the diagnosis, and treatment of the disease.

Part II discusses the relation of meningitis to cases of poliomyelitis which present meningeal symptoms.

The conclusion arrived at is that the "medullo-virus" may give rise to all the symptoms of a meningitis, and need not be accompanied by any paralysis.

The book is an excellent compilation of all the early and recent studies on poliomyelitis, but no short review such as the present can do justice to it.

The work is well put together, and the bibliography so arranged that it is easy to find the references to any given portion of the subject on which it is desired to obtain information.

F. E. B.

ARCHIVOS BRASILEIROS DE MEDICINA. Redacção: R. Gonçalves Dias 26, Rio de Janeiro.

WE have received the first four numbers of this journal, the excellence of which should secure it a prominent position among medical periodicals. The editors are Prof. Moreira, of Bahia, and Prof. Austregesilo, of Rio. In addition to six ordinary numbers supplementary issues are to appear every other month. The first number contains a paper by Figueira on infantile scurvy, and one by Alvaro Ramos on Madelung's deformity, to which is appended an extensive bibliography, which will be of value to readers not familiar with Portuguese, for whose benefit also each original article has been summarised in French or German.

Among the abstracts from current literature in the first and third numbers we are pleased to find that several pages have been devoted to children's diseases, and that this JOURNAL has been laid under contribution. The second number contains an account of a meeting of the Brazilian Pædiatric Society, in which alimentary fever, and cases of Pick's disease, meningo-myelitis and *B. coli* pneumonia were discussed.

J. D. R.

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THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

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REMARKS ON ORTHOSTATIC ALBUMINURIA.

By F. PARKES WEBER, M.D., F.R.C.P.Lond.,
Physician to the German Hospital, London.

By "orthostatic albuminuria" I mean a condition characterised by the occasional, but not invariable, presence of albumin (sometimes little, sometimes much) in the urine passed when the patient is up, that is to say, has been up for some time, but not in that passed when he is in bed or immediately after he has been lying for some time in the recumbent posture—for instance, in that passed immediately after the night's rest, on getting out of bed in the morning.* The amount of albumin in the urine varies a good deal in different cases, and in the same case it varies according to the time of day, even when the patient remains up the whole day. In some cases the urine passed late in the evening, not long before going to bed, is quite free from albumin. The albuminous urine, in addition to ordinary urinary albumin (serum-albumin) sometimes contains likewise a little of the protein, formerly thought to be nucleo-albumin, precipitated by acetic acid in the cold. Thus, in the case of a young man, aged 18 years, recently under my observa-

* Much of the substance of the present paper was included in the remarks I made, at the Medical Section of the Royal Society of Medicine, May the 2nd, 1911, during the discussion on the "After-history of Cases of Albuminuria occurring in Adolescents."

tion, the urine passed immediately on getting out of bed in the morning was free from protein of any kind, whereas that passed at ten o'clock in the morning contained both ordinary urinary albumin and a protein precipitated by the addition of very dilute acetic acid in the cold. The urine passed at about ten or eleven o'clock in the morning is often that which contains the greatest amount of albumin, and it is an unfortunate mistake for the doctor to ask a patient to send a specimen of his "morning urine" to be tested, for in that way, in cases of orthostatic albuminuria, the patient, wishing to comply with the doctor's request, may either send a sample of urine passed immediately after getting out of bed in the morning, which would be free from albumin, or a sample of the urine passed at ten or eleven o'clock, precisely that most likely to contain the greatest amount of albumin.

Though in cases of orthostatic albuminuria the time of day sometimes makes a considerable difference in the amount of albumin in the urine, even when the patient remains up and about during the whole of the day, it has been experimentally proved (in some cases, at all events) that the posture, not the time of day or the time of meals, is the chief determining cause in the production of the albuminuria in question. (There must, of course, be some other cause, but to this I shall refer later.) For instance, if a patient with orthostatic albuminuria remains lying in the recumbent position in bed throughout the day, no albumin appears in his urine, and thus it is that in hospital in-patients the presence of orthostatic albuminuria is frequently overlooked, the specimens of urine for examination being generally passed whilst the patient is, or has just been, lying in bed.

In orthostatic albuminuria the albuminous urine often contains calcium oxalate crystals, and occasionally a few red blood-corpuscles are found. The presence of these red cells may turn out to be a (temporary) genuine feature of orthostatic albuminuria, but it may on the other hand be merely connected with concomitant oxaluria. Usually tube-casts are absent, but, by the help of the centrifugal machine, a few hyaline casts and even one or two granular or cellular casts may be detected. Perhaps, however, in these cases it would be more accurate to speak of "hyaline casts containing cells or granules" than to call them typical "cellular" and "granular" casts. The administration as a "test" of calcium lactate (suggested by Sir A. E. Wright) seldom suffices, even for a few days, to remove the albumin from the urine of patients with typical orthostatic albuminuria.

This type of albuminuria occurs of course in girls as well as in boys, and possibly routine examination of the urine of children will show that its average commencement is at a slightly earlier age in girls than in boys.

I believe that amongst cases of albuminuria in apparently healthy children and young adults orthostatic albuminuria is by far the most frequent type, and I do not think that albuminuria in these apparently healthy subjects should ever be regarded as belonging to any other than the orthostatic class unless it can be definitely ascertained that specimens of the urine passed immediately on getting out of bed after the night's rest contain albumin.

My personal knowledge of cases of orthostatic albuminuria is derived from what I have observed in the young men whom I have examined as medical officer to a large insurance company, in candidates for clerkships at a London bank, and in a certain number of cases in hospital or private practice. Several young men with orthostatic albuminuria whom I have examined have been accepted for life assurance or for clerkships, and I have never heard of any bad result in such cases, nor have I heard from other doctors, or from a study of the extensive literature of the subject, of any single bad result in a case of typical orthostatic albuminuria. This is very significant if one considers the great number of cases which have been reported on.

A case which I have frequently examined and know better than others is that of a man, now aged 28 years, in whom orthostatic albuminuria has been present at least since 1907, but probably from a much earlier date. He is fond of hunting and open-air exercise of a very active kind. Sometimes his urine has contained a few hyaline casts, and sometimes there have been granules or cells in the hyaline casts. This young man feels well, and may even gain in weight when he can live the active, open-air life which he loves. He is of the tall and thin type rather characteristic of orthostatic albuminuria, and, as usual in such cases, he grew rapidly in height during early adolescence, and is rather abnormally subject to coldness and redness of the hands (the so-called "bad circulation in the extremities"). Orthostatic albuminuria was still present when I recently examined his urine. A fellow-student of mine became aware of the presence of albumin in his urine about twenty-seven years ago when working in a physiological laboratory, and many years afterwards I heard from him that the albuminuria (which was doubtless of the orthostatic type) had disappeared. Another medical man whom I know has told me that about seventeen

years ago when he was nineteen years old, and was working in a physiological laboratory in Germany, he detected albumin in his urine. The urine passed immediately after getting out of bed in the morning was free from protein of any kind, but at about ten o'clock in the morning it contained a good deal of protein, partly the kind precipitated by the addition of dilute acetic acid in the cold and partly ordinary urinary albumin (serum-albumin). Late in the evening, before he went to bed, it became quite free from protein again. His case was therefore pronounced by the professor of medicine at the German University where he was studying to be an example of "cyclic albuminuria." The albuminuria in his case continued certainly till the age of twenty-two years; it is not known at what age it finally disappeared, but his urine is now free from protein. The term "cyclic albuminuria" was first introduced for the kind of albuminuria now under discussion by Pavy* in 1885, but Moxon,† several years previously, had already recognised an "intermittent albuminuria of adolescents" (and had alluded to a "remittent albuminuria"), in which the albuminuria was specially marked after breakfast, though generally absent on rising from bed in the morning. Much time naturally elapsed before any really definite knowledge could be acquired regarding the significance (from the prognostic point of view) either of typical orthostatic albuminuria or of other forms of temporary albuminuria, such as that induced by violent muscular exercises (running and rowing in races, etc.). Now at last one is justified in asserting that the prognosis of orthostatic albuminuria is so good that no candidate for an appointment or for life assurance should be rejected merely on account of its presence, that is to say, in the absence of other points against him. Of course, however, orthostatic albuminuria may be connected with various morbid conditions, some of which are of great importance. It is not surprising that, occurring as it not rarely does in "overgrown" children and in tall, flat-chested adolescents, it should be occasionally associated with early pulmonary tuberculosis. I have observed orthostatic albuminuria in two young men with grave forms of congenital heart disease.‡ There is, moreover, no reason to suppose that true orthostatic albuminuria may not sometimes accompany albuminuria due to actual nephritis,

* F. W. Pavy, "On Cyclic Albuminuria," *'Brit. Med. Journ.,'* 1885, ii, p. 789.

† W. Moxon, *'Guy's Hospital Reports,'* London, 1878, xxiii, p. 236.

‡ F. P. Weber, "Congenital Heart Disease, with Extreme Secondary Polycythæmia and Orthostatic Albuminuria," *'Edinburgh Med. Journ.,'* 1909, New Series, ii, p. 18; F. P. Weber and G. Dorner, "Congenital Pulmonary Stenosis," *'Proc. Roy. Soc. Med.' (Clinical Section),* London, 1911, iv, p. 85.

but it is highly probable that, when its presence has been first discovered on examining the urine during or after scarlet fever, it has occasionally been incorrectly accepted as evidence of scarlatinal nephritis. Naturally, very few kidneys of patients known to have had orthostatic albuminuria have been microscopically examined. In one such case, however, slight renal "changes" were discovered, but in the light of recent examinations it appears that slight so-called "changes" in the renal cortex may be found by microscopical examination in children who have never had any signs of kidney disease. At any rate, orthostatic albuminuria cannot be reasonably attributed to the presence of such slight microscopical "changes."

For practical purposes I think that what is called "lordotic albuminuria" should be regarded as a variety of orthostatic albuminuria, in which a decidedly lordotic position acts as an essential and determining (though not the only essential) cause of the albuminuria; such a position of the body has, in fact, been experimentally proved to be a determining cause in some of the cases. On this subject much has recently been written in Germany and other parts of the Continent. In cases of lordotic albuminuria, even when the patient is kept lying in bed, the urine can occasionally be made to temporarily contain albumin by placing a bolster under the small of the patient's back, so as to produce an artificial lordosis. Thus, in a somewhat asthmatic girl, aged 12 years, who was under my observation with orthostatic albuminuria, the urine was free from albumin when she was kept lying in bed, except when a bolster was placed under the small of her back so as to produce an artificial lordosis. This was tried for about an hour on two occasions, and as a result on each occasion albumin appeared in the urine.* Of course, however, in cases of lordotic albuminuria, the lordotic position cannot be regarded as the only cause of the albuminuria, for artificial lordosis will not produce albuminuria in all children. Similarly, in other cases of orthostatic albuminuria, the upright position of the body cannot be regarded as the only cause of the appearance of albumin in the urine, for if it were so, one would expect to find albuminuria in all children and young adults, excepting when they were, or had just been, lying down. There must be some other cause, such as a functional defect of some kind or other in the renal secretory apparatus—a kind of

* However, in another case of orthostatic albuminuria, namely, in a boy, aged 16 years, recently an in-patient at the German Hospital, Dr. H. Mendelsohn kindly tells me that artificial lordosis in the *recumbent position* failed to give rise to the presence of albumin in the urine.

defect which lasts only for a limited period (usually at least several years) during childhood and early adult life, and then gradually passes off. Such a theoretical functional defect would have to be supposed also to vary in degree according to the time of day, for it is only on a supposition of that kind that the occasional disappearance of the albumin from the urine in the evening before going to bed (*i. e.* the cyclical diurnal variation in the albuminuria) could be accounted for.

In conclusion, I wish to draw attention to the analogy between renal symptoms and cardiac symptoms from the point of view of prognosis. Just as grave myocardial changes may exist without obvious clinical symptoms, so also organic renal disease may be present in people who seem to be in good health, and whose urine is sometimes quite free from albumin. Just as young persons may present cardiac murmurs, palpitation, etc., in the absence of organic heart disease, so also they may pass albumin in their urine in the absence of organic renal disease. And just as an organically diseased heart may regain its functional activity and do all the work that it is called on to do, so in cases of parenchymatous nephritis with dropsy of long duration one may occasionally observe a kind of "urinary crisis" during which, in the course of a few days, the dropsy entirely disappears owing to the kidneys having recovered their functional activity, although remaining, of course, anatomically diseased.

TYPHOID FEVER IN CHILDHOOD: AN ANALYSIS OF ONE HUNDRED CONSECUTIVE CASES.

By ERIC BELLINGHAM SMITH, M.D., M.R.C.P.,

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WHILE typhoid fever in children broadly resembles the adult type of the disease, it also exhibits certain characteristic differences. The following paper, based on the results of an analysis of 100 consecutive cases collected at the Queen's Hospital for Children, where children are admitted up to the age of twelve years, indicates the chief.

No attempt has been made to review all the known symptoms and possible complications which may accompany this complaint in

childhood, but rather to set forth the main features and some difficulties in diagnosis which are common to the disease at this age, and which are illustrated by the cases in this series.

Ætiology.—On the question of infection and its source the histories of these cases throw very little light. In the great majority the attack was an isolated one in the family, and its origin was untraceable. In some the child or children contracted the disease directly from some adult member of the family; in others a possible source suggested itself in the consumption of cheap ice-creams, shell-fish, and impure milk.

Sex does not appear to play any part in the incidence of this disease: fifty-one of the cases were girls and forty nine boys. Age, on the other hand, is an important factor.

There is no case in this series under one year of age. From this period to twelve years of age there is a steady increase in the number of children infected. This is well shown if we divide the period of twelve years into groups of three.

Age in years.	No. of cases.	Total in 3 years.	Age in years.	No. of cases.	Total in 3 years.
0-1 . .	0		6-7 . .	15	
1-2 . .	3		7-8 . .	9	
2-3 . .	4	7	8-9 . .	6	30
3-4 . .	7		9-10 . .	11	
4-5 . .	12		10-11 . .	16	
5-6 . .	5	24	11-12 . .	12	39

No season of the year is entirely free from typhoid fever, but the disease seems far more prevalent in the latter half of the year, and in the autumn especially. No less than 35 per cent. of the cases in this series occurred in September and October. The following table shows the months in which the cases occurred:

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
9	3	5	7	2	7	5	8	20	15	11	8

The duration of the disease in children is exceedingly variable, and forms one of the peculiar features of typhoid fever at this age. In 12 of the 100 cases it was impossible to define approximately the date at which the child was first taken ill, but in the remaining 88 the time of onset could be more or less correctly arrived at.

Of these six lasted only 8 to 12 days, forty-three for a period varying from 15 to 21 days, while thirty-nine continued for 21 days and over. The shortest illness was 8 days and the longest 50. The average duration of the disease calculated from the date of onset to the termination of the pyrexia in hospital was 23.1 days.

From the shorter duration of the disease as evidenced by these

figures, and as we shall see later when studying the mortality from the lower death-rate, it is apparent that on the whole typhoid fever in children is a less serious disorder than the corresponding complaint in adults.

Onset and prodromal symptoms.—The onset at this time of life may be sudden, in which case the symptoms are not infrequently vomiting, which may be very severe and continuous, and diarrhœa. Vomiting as an early symptom, while unusual and rare in adults, is in children moderately common. In 3 per cent. of these cases this symptom is recorded as being exceedingly severe and persisting well into the disease. In 27 per cent. vomiting appears as a prodromal symptom, but was in the majority of cases limited to a few occasions at the onset. More often the onset is gradual, and the symptoms then differ little from those seen in the adult type of the disease. Anorexia, headache, cough and general malaise appear as early indications. Headache rarely exists in the severe form in which it occurs in older patients, and is often either entirely absent or so slight as to escape notice. It is mentioned as a symptom in only 64 per cent. of these cases. When severe, and associated, as it not infrequently is under these conditions, with nocturnal delirium, irrational screaming, mental irritability and photophobia, the disease presents a picture which is often mistaken for the early stages of tuberculous meningitis and other acute cerebral affections of childhood. Such a case was the following: G. N—, aged 6 years, was admitted for drowsiness, fitful screaming, vomiting and constipation. When seen the child lay curled up on one side, strongly resenting any interference and exhibiting marked photophobia. A preliminary diagnosis of early tuberculous meningitis was made. Later the abdomen became distended, the stools loose, the spleen enlarged, and rose-spots appeared. A positive Widal pointed to the correct diagnosis of typhoid.

Of the 100 cases 8 per cent. exhibited this meningitic type at the outset, while some 16 per cent. showed more or less marked mental irritability.

Diarrhœa frequently ushers in the disease, but rarely continues in any severe degree throughout the illness. It is not uncommon, on the admission of the patient for a parent to state that the child has profuse stools. This, however, if present, will be found to cease, or be easily controlled, on the adoption of routine typhoid treatment.

In addition to a sudden onset with vomiting, a gradual onset with general malaise, and the meningitic type, there exists also a

further distinct group in which the prominent symptoms are pulmonary. It exhibits itself generally as a diffuse bronchitis, the physical signs of which are usually not sufficiently marked to account for the associated severe disturbance and high pyrexia. Further examination in these cases may, at a later date, reveal a distended abdomen, large spleen, and rose-spots. Occasionally, however, headache, bronchitis and gradual emaciation form the only symptoms. Such a case was R. B—, aged 9 years, admitted for headache, general bronchitis, and slight diarrhoea. The stools were atypical, there was no enlargement of the spleen, nor spots. Gradual emaciation took place, the temperature remaining persistently high for a period of twenty-three days. The progressive wasting, associated with a remittent pyrexia and lung-signs, suggested at first general tuberculosis; a positive Widal and a rapid convalescence after the fall of temperature indicated the nature of the infection. In infancy itself the condition may suggest simply diarrhoea and vomiting, and it requires careful observation of a history of similar disease in older members of the family to arrive at a right conclusion.

In addition to these six distinct varieties, typhoid fever in children occasionally presents itself under the guise of other ailments. In this series two cases exhibited as their most prominent symptom a marked tonsillitis. In other two cases the only feature which had been noticed was a steady and marked emaciation. These latter cases had evidently been in progress for some time, and a diagnosis could only be made on the previous history and a positive Widal reaction.

Again, a child was brought to hospital suffering from a widespread œdema, mental irritability, albuminuria, and a history of illness of some days' duration. No casts were present at the time. In a day or two typical rose-spots appeared, and still later a positive Widal reaction was obtained. A large gluteal abscess in a child of apparently weak intellect in yet another case was shown to be the result of a previously existing typhoid. After surgical intervention convalescence proceeded rapidly, the mental aspect disappearing with a liberal diet and more generous surroundings of hospital.

In two other cases severe articular pain and slight delirium led to the provisionally wrong diagnosis of acute rheumatism.

Finally, one must always remember the possibility of typhoid occurring with scarcely any evidence of ill-health. As instances of this we have the two following cases, which were only discovered, one from the fact that her sister was suffering at the time from the

disorder in question, and in the other in the course of a routine out-patient examination :

(1) A. M—, aged 8 years. Feeling quite well ; sister in hospital with typhoid ; no symptoms. Examination revealed a profuse crop of typical spots, and the Widal was positive. Temperature, which was 102° F. on admission, fell to normal in nine days.

(2) M. K—, aged 8½ years, admitted for slight headache. Constipation, and a profuse crop of spots. Temperature was often normal, never above 100° F. Duration of illness from temperature chart was twenty-one days. Never felt ill at any time, and was extremely indignant at being detained in bed. Widal positive.

Symptoms during the course of the disease.—The symptoms occurring during the course of a severe attack of typhoid in a child present very little difference from those seen in a moderately severe attack in the adult. Apathy, drowsiness, flushed face, with slight circumoral pallor, the tongue with its typical appearance, the presence of spots from the sixth to the eighth day onwards (present in this series in 64 per cent. of cases), the slight doughy distension of the abdomen and splenic enlargement (present in 51 per cent.), and the cough and scattered moist sounds in the lungs, all find a place in the typhoid fever of childhood.

Apathy and drowsiness rarely if ever proceed to the stage of stupor and coma seen in adults. Delirium is present, nocturnal in time, hardly ever occurring by day, usually quiet and muttering in character, but at other times it may be violent and noisy, and associated with hallucination of sight and delusions.

Subsultus, like stupor and coma, is very uncommon, and when present usually suggests a fatal termination. It was present in three cases in this series, and two were fatal.

Abdominal pain is sometimes present, and occasionally so severe as to simulate acute abdominal disease: *e.g.* B. B—, aged 5 years, admitted for severe abdominal pain, had definite tenderness most marked over the appendix. He cried with the pain, and kept his legs drawn up. Later he had typical signs and symptoms of typhoid.

Pulmonary symptoms are often absent, a varying degree of bronchitis, and in the more severe cases slight hypostatic congestion are all that are present.

Emaciation is a constant feature, and is as rapid as is the gain in weight when once convalescence commences.

Progress and complications.—With the onset of the third week arise such complications as occur in this disease in childhood.

The general symptoms of this period differ little from those of the second week, prostration and emaciation are more marked, and evidence of myocardial trouble is indicated by an increasingly rapid, feeble, irregular, occasionally dicrotic pulse. Examination of the heart at such a time will reveal a soft or muffled first sound, sometimes increased cardiac dulness, but rarely any adventitious mitral murmur.

In this series 17 per cent. of the cases showed more or less myocardial trouble calling for treatment. Slight affection of the myocardium is probably the commonest complication that occurs in typhoid fever in children, and demands careful watching and judicious stimulation. Sudden heart failure appeared as the only cause for death in two of the seven fatal cases in the series.

Cyanosis, not uncommon in the severe adult type, is mentioned only twice in these 100 cases.

Pulmonary complications are not of common occurrence. Pneumonia, pleurisy, and empyema, however, find a place in the series. Definite pulmonary consolidation is recorded in five cases. The pneumonia in nearly all instances occurred at the end of the second or beginning of the third week, and appeared to be pneumococcal in origin. Such a case at all events was the following:

W. W—, a boy, aged 6 years, with an apparently mild attack of typhoid. The temperature, which had been low throughout, was actually normal on the tenth day, rose gradually to the fifteenth day, when the child developed signs of pneumonia in both lungs, and died rapidly on the seventeenth day of illness. An examination of the blood and spleen yielded a mixed infection of pneumococcus and *B. typhosus*.

In a second case, lobar pneumonia, appeared as the only prominent symptom. A girl, aged 10 years, whose sister died in the hospital of typhoid fever, which was confirmed post-mortem, was admitted the day following the death of her sister with vomiting, abdominal pain, and cough, all of sudden onset. The spleen was enlarged and nocturnal delirium was marked. On examination there was complete consolidation of the right lung. A Widal reaction taken twice proved positive on both occasions. The temperature, 104.6° F. on admission, ran a continuous course for seven days, and terminated by crisis. There were no symptoms previous to illness, and none followed it.

The positive Widal reaction and the history of infection leave little doubt that this child was suffering, or had suffered, from a mild attack of typhoid, which had culminated in an attack of pneumonia.

In the third case double pneumonia occurred in a child, aged 4 years, on the thirtieth day of the disease, and was followed in twelve days by cancrum oris and empyema, and a fatal termination.

In the fourth case pneumonia appeared during the course of a severe illness of forty-two days' duration, in which hæmorrhage from the bowel and severe myocarditis were prominent features. This case recovered.

The fifth case was one of moderate severity only, which ran a typical course to a successful termination.

Pleurisy is mentioned once in the series. A girl, aged 6 years, during the second week of a severe but non-fatal case of typhoid fever, developed a well-marked pleuritic rub over the right lung, which was audible for some days. No effusion formed, so that cultivation was impossible. It is interesting to note in this case that a von Pirquet reaction proved positive. This, though of little value, raises a point which must not be forgotten, namely, that tuberculosis may be a sequela of typhoid fever.

Empyema occurred once, and is mentioned in the third case of pneumonia above.

Nephritis, dependent on the typhoid infection, appears to be very rare in childhood and infancy. Sixteen cases presented a varying degree of albuminuria. This albuminuria, sometimes of only twenty-four hours' duration, persisted in other cases, throughout the whole pyrexial period. No blood-casts or other evidence of nephritis, however, occurred.

Blood, pus, albumin, and frequency of micturition are reported in four cases in the series, towards the end of the pyrexial period, or during convalescence, and in all cases was found to be due to the presence of a Gram-negative motile bacillus in the urine, which in two cases was definitely identified as the *Bacillus coli*.

Retention of urine occurred only once, and necessitated the use of a catheter for six days.

Otorrhœa and deafness are not uncommon complications, and usually occur towards the end of the illness. Ear discharge manifested itself in eight cases during a period covered by the fourteenth day to the fifth week.

Deafness occurs apart from actual suppuration, and is nearly always entirely recovered from. Three cases in this series exhibited marked temporary deafness appearing in the second and third weeks and on the thirtieth day respectively.

Parotitis appears twice in the series. In the first case the swelling was a simple non-suppurative enlargement. In the second, inflam-

mation appeared in both parotid glands on the fourteenth day of illness, and was followed by a diffuse cellulitis of the neck, which culminated in death on the twenty-fifth day of illness.

Active delirium, hallucination, and delusions have been mentioned as occurring occasionally. This mental condition is indicated by rambling speech and an entire misapprehension of the nature of objects surrounding the bed or cot. With this occur occasional loud outbursts of shouting and attempts to bang the head or limbs against the sides of the cot. In three cases in this series drowsiness and apathy gradually passed into a state of mental depression closely akin to melancholia. The child in each case was entirely prostrated with every indication of complete muscular enfeeblement, its expression was miserable and woebegone; any question or remark called forth only sobs and tears. In this state actual aphasia may occur. Mental depression rarely occurs apart from a long and severe illness, and usually manifests itself about the third or fourth week; it frequently persists into convalescence, but generally disappears with the institution of more liberal feeding.

In addition to these two states of mind a condition of dementia exists. One case in this series exhibited this. The child in question, aged 10 years, had previous to admission suffered from a long, severe, and undiagnosed illness, in which headache, diarrhoea, and vomiting had been prominent symptoms. On examination he was extremely emaciated, his skin was desquamating, and he was suffering from cystitis. His mental condition was dull and apathetic, his expression vacant and almost fatuous, his manner and behaviour that of an infant. His blood gave a positive Widal reaction, and with hospital treatment and a generous diet he rapidly recovered in all respects.

Other symptoms possibly nervous in origin appear in four instances in this series. They consisted of, indefinite, but occasionally severe pains affecting the lower limbs. It is difficult to judge whether they are muscular or of the nature of a mild neuritis. Sometimes also there is an obstinate refusal of food, which necessitates nasal feeding; this occurred in three cases.

Suppuration in the bony, muscular, or connective tissues of the body finds place in this series in one instance only, and is generally rare in childhood. This was the case of gluteal abscess mentioned above.

Abscesses in the skin and multiple boils are not uncommon. They occur practically always at the end of the illness and very often during convalescence. There are six such cases in this series,

three of which commenced in convalescence, the others on the seventeenth, twenty-seventh, and thirtieth days of illness.

The important group of alimentary complications of such fatal interest in the adult have been left purposely to the end.

It is commonly accepted as a fact that hæmorrhage and perforation are but infrequently present in childhood and infancy. This without doubt accounts for the low mortality which exists at this age, and it finds an explanation in the fact that the ulcerative stages of the pathological changes which the intestine undergoes are not always reached. Evidence of this has been forthcoming in necropsies on fatal cases dying at a time when such changes should have been present. In nearly 50 per cent. of the cases in this series recovery took place at the end of the second or during the early days of the third week. Swelling and perhaps slight superficial ulceration of Peyer's patches is probably all that occurs in these cases. Such a condition is more frequent in young children. As age advances the pathological changes, and consequently the risk of perforation and hæmorrhage, tend to approach more nearly in character to those present in the adult forms of the disease.

In four of the seven fatal cases in this series in which ulceration was present post-mortem the children were over six years of age. In the two fatal cases of perforation the children were aged respectively eleven and twelve years. In the first of these two cases death followed the perforation, which took place on the thirty-sixth day, almost immediately. In the second, which occurred on the twenty-seventh day, the diagnosis was not made until the onset of general peritonitis.

Hæmorrhage from the bowel is mentioned in seven instances, in four of which it was slight, giving rise to no symptoms and needing no treatment. In three it was severe, not fatal, but associated with usual collapse symptoms. In these last three cases the hæmorrhages occurred on the twenty-second, twenty-fourth, and twenty-fifth days respectively of the illness. Two of these severe hæmorrhages occurred in the cases mentioned above as dying of perforation. The third, a very severe case of typhoid in a girl, aged 10 years, eventually recovered.

Hæmorrhage and perforation therefore appear as complications in the later ages of childhood, and these cases support the view that ulceration of the bowel is more frequent at this age than in the early years.

Vomiting has been already mentioned as a prodromal symptom, but it also occurs during the course of the disease. In such cases

it may be due to errors of diet or implication of the peritoneum, as in perforation. On the other hand it occasionally appears without obvious explanation. It rarely occurs in other than severe cases, and where frequent or repeated is often of fatal significance, as is shown by the following case:

R. B—, aged 1 year and 4 months, a female infant, whose mother, brother and sister were all in hospital for typhoid fever, was admitted with typical symptoms, *e. g.* rose-spots, enlarged spleen, distension of the abdomen, irritability and diarrhœa. She vomited frequently while in hospital and died suddenly eighteen days after admission. Post mortem there was no evidence of perforation or peritonitis and an examination of the small intestine revealed only swelling of Peyer's patches and no ulceration. No treatment or diet influenced the vomiting in this case. In a second case, which gave evidence of severe myocarditis, vomiting occurred throughout the disease, but recovery took place.

Meteorism is not frequently met with to such a degree as to require treatment. Only three cases in this series called for relief owing to severe abdominal distension.

Careful attention to the mouth usually prevents stomatitis and ulcerative conditions. Failure in this direction is no doubt responsible for adenitis, parotitis, and perhaps cancrum oris. The two cases of parotitis and cancrum oris have already been mentioned.

Sordes and a dry, brown, glazed condition of the mucous membrane and cracked, bleeding lips are not infrequently present in some cases. The stools in the typhoid of children, on account of the variable appearance and consistency, are exceedingly difficult to classify. As we have shown before, diarrhœa, while frequently present in the stages previous to the commencement of treatment, is usually absent to any marked degree in the majority of cases during the course.

In 81 cases in this series I have attempted some sort of a classification. Of these, 18, or 22 per cent., were said to be typical. In 15, or 18 per cent., there was constipation. In 14, or 17 per cent., the stools were green, undigested, and offensive. In 28, or 34 per cent., there was some degree of diarrhœa, the stools being loose, grey or brown in colour, and foul smelling. In only 6 of these was the diarrhœa so excessive as to call for urgent treatment. In the remaining 6, or 7 per cent., the stools were normal in appearance and consistency throughout.

Convalescence in the child is as a rule rapid and uneventful, and is associated with rapid gain in weight. Occasionally nervous

complications, bacilluria, or cutaneous abscesses persist for a while. Desquamation is sometimes copious. Irregularity of the pulse to those that are unaware of the frequency of this phenomenon after any acute illness in childhood is occasionally a cause for unnecessary alarm. Constipation as a rule will prove to be the only difficulty. Relapses, on the other hand, do occur, and are usually, of shorter duration and less severe than the original attack. Eleven per cent. of the cases in the series had a typical relapse of varying duration. The shortest of them was five days, the longest nineteen days. The shortest interval between the original attack and the relapse was one day, and the longest eleven days. In one or two cases the temperature chart seemed to point to an overlapping of first and second attacks, but these have not been included in the above number. In five of the eleven cases there was a repetition of some of the symptoms of the previous attack, *e. g.* spots, enlargement of spleen, headaches and drowsiness.

In addition to these relapses there occur occasional irregular and shorter pyrexial periods which appear to be due to increase in diet or constipation and other causes not always obvious. In one case more than six such periods occurred of one to twenty days' duration each, which were eventually proved to be due to a *B. coli* infection of the urine.

The pyrexia in the typhoid of children is on the whole almost as atypical as the stools. As in adults, it may be so slight as almost to escape recognition. Three cases in this series exhibited a maximum temperature of only 100°. In the ordinary course of the disease we meet with three distinct types, two of which are very different from the regular type of the adult disease. These may be classified as (1) continuous; (2) intermittent and irregular; (3) remittent. The younger the child the more likely is the temperature to be remittent or irregular. This is exemplified by the following: Twenty-four cases in the series were taken at random; of these, eight could be described as continuous, eight as intermittent and irregular, and eight as remittent.

The average age of the eight cases with continuous fever was 9·2 years, that of the irregular and intermittent 7·2 years, that of the remittent 6·8 years. From these figures also it would appear that the temperature is more often remittent and irregular than continuous.

In one case, a child aged 2 years and 4 months, the temperature was of the inverted type—normal at night and raised in the morning. In the great majority of cases in children there is

usually a considerable morning remission. Rigors are mentioned in 6 per cent. of these cases. In two of these the rigors occurred in association with suppuration, in the one case a dental abscess, in the second in a fatal case of suppurative parotitis. In two cases the disease itself seemed to end suddenly with a rigor and crisis, the temperature dropping suddenly and remaining normal. In the remaining two, rigors occurred on the seventeenth and twenty-first days of illness respectively, and their cause was not apparent: one appeared to follow the administration of an enema. The extent of the pyrexia is not always a gauge of the severity of the disease. In an infant aged 1 year and 4 months, who died after eighteen days' illness in hospital, the temperature was never above 102° F., and again, in the case of a boy, aged 6 years, who died of typhoid and pneumonia, the maximum temperature recorded was 101.8° .

Prognosis.—On the whole this may be said to be good. It is impossible to determine at the beginning of the illness which way a case may travel. Each case must be judged on its own merits. In this series death took place in seven instances from the following causes: perforation, 2; toxæmia, heart failure, 2; pneumonia, 1; suppurative parotitis, 1; pneumonia, empyema, cancrum oris, 1.

Diagnosis.—As in the adult type of the disease, Widal's serum reaction plays an invaluable part in the diagnosis of obscure cases. In 76 cases in this series the records of this examination are preserved. Of these, 58, or 76 per cent., gave a positive reaction, 4 a partial, and 14, or 18 per cent., a negative result. Of these latter only one was repeated, and again proved negative; in the remainder all the clinical signs of typhoid fever were present, and further examination was omitted. If this method fails, confirmation of the diagnosis in a difficult case may be sought by means of a blood-culture. We have seen that typhoid in its early stages may simulate various acute pulmonary meningitic and abdominal conditions, and *vice-versâ*, such states may be mistaken for typhoid. Difficulty arises in acute lung disorders where the signs are, on the one hand, diffuse, or on the other deep seated and absent; in addition, there is not infrequently abdominal distension, vague pains and enlarged spleen, and a high temperature. Solution must be sought in these cases in the characteristic quick, shallow, grunting respirations, the presence of a leucocytosis, and in a day or two evidence of typical local consolidation, or a sudden termination of the illness by crisis. On the other hand, typhoid will be

revealed by the appearance of spots, a leucopenia, and later by a positive Widal.

Other pneumococcal affections may simulate typhoid, such as pneumococcal meningitis and peritonitis. The first is quickly distinguished by its rapidly fatal course, at the most usually four or five days, and by the purulent cerebro-spinal fluid teeming with pneumococci.

Pneumococcal peritonitis, with its drowsiness, slight abdominal pain, moderate distension and tenderness, ushered in by diarrhœa and vomiting, will often only be discovered in the absence of a reliable history when the symptoms of general peritonitis are fully manifested.

Various tuberculous affections are sometimes mistaken for typhoid fever. General tuberculosis, whether as a meningitis or in its pulmonary or abdominal form, is occasionally a stumbling-block. Differentiate the first by its lower temperature, which may not be elevated at all until the end, the retraction instead of distension of the abdomen, the drowsiness and apathy rapidly passing into coma, and the presence of fleeting paralysis. Lumbar puncture will reveal an excess of fluid, a slight leucocytosis, and perhaps the tubercle bacillus.

The pulmonary type with its prostration, apathy, cyanosis or pallor, the diffuse, moist sounds in the lungs, the not infrequent enlargement of the spleen, and diarrhœa, is much more difficult. The temperature is, as a rule, lower and more remittent than that of typhoid; the presence of other tuberculous lesions, glands in the abdomen and neck, or the development of choroidal tubercles, should help to the correct diagnosis.

The abdominal type, whether ascitic or plastic, should afford very little difficulty to a careful observer. Free fluid, thickened omentum and enlarged glands, colicky pains, with increasing distension of the abdomen and progressive emaciation, often with little or no temperature, form a picture hard to mistake for typhoid fever. In the more obscure cases the long duration of the illness and the absence of all signs of typhoid should lead to a suspicion of tubercle.

Sundry acute cerebral affections, such as epidemic cerebro-spinal meningitis, acute encephalitis, and acute otitis media, can be determined easily by localising symptoms and an examination of the respective cerebro-spinal fluids.

More difficult occasionally are various abdominal conditions. Acute pneumococcal peritonitis has been mentioned. No hesitation

should occur in the diagnosis of acute appendicitis; failure to recognise this condition or secure immediate operation involves a grave responsibility. Constipation is a frequent source of error. Cases commonly occur of profound headache, abdominal distension, pain, drowsiness, vomiting, and raised temperature. Sometimes the spleen is enlarged, in which, until the administration of one enema or more, a diagnosis of typhoid has been confidently made.

Infection of the urinary tract by the *Bacillus coli*, where there is sometimes no localising symptoms, but only high temperature, indefinite abdominal pain, general malaise, mental irritability and drowsiness is another source of error. An examination of the urine will reveal the presence of pus and quantities of the offending organism. In other cases enlargement and tenderness of one or other kidney will be found on palpation.

During the period in which these 100 cases were admitted 40 cases were admitted with the provisional diagnosis of typhoid fever and later proved to be wrong. Ten cases also were admitted for other disorders and proved to be typhoid. They are interesting as illustrating the question of diagnosis above, and as such they are tabulated below:

1. *Cases admitted as Typhoid but Due to Other Diseases.*

Disease.	No. of cases.	Disease.	No. of cases.
Constipation	11	<i>B. coli</i> pyelitis	2
Tuberculous meningitis	4	General bronchitis.	1
Lobar pneumonia	3	Pneumococcal peritonitis	1
Apical pneumonia	2	Acute otitis media.	1
Tuberculous peritonitis	2	Pericarditis	1
General tuberculosis	2	Influenza	1
Diarrhoea	2	Pyrexia of uncertain origin	7
	—		—
Total	26	Total	14

2. *Cases admitted under Different Headings and Due to Typhoid.*

Disease.	No. of cases.	Disease.	No. of cases.
Constipation	1	Acute rheumatism	1
Tuberculous peritonitis	1	Follicular tonsillitis.	1
Broncho-pneumonia	1	Appendicitis	1
Lobar pneumonia	1	General bronchitis	1
General debility	1		—
Tuberculous meningitis	1	Total	10

In the first series two of the cases under the heading of "Constipation" had an illness of ten days' duration, in which figured a large spleen, headache, abdominal pain, drowsiness, and both yielded a partial Widal. Such cases may have been possibly paratyphoid infections.

Treatment resolves itself into absolute rest, good nursing, and careful dieting. Drugs have no influence on the course of the disease. All treatment is symptomatic. The diet should be principally milk given two hourly in 2-5 ounce feeds. Such feeds may be slightly thickened with plasmon or Benger's or their nutritive value increased by the addition of lactose 3j to each feed. Where constipation is troublesome one feed in three may be some meat extract, such as beef-tea, veal-tea, or chicken broth. If the stools are undigested the milk may be citrated, and if that fails, peptonised. Children take the latter badly, and the unpleasant flavour may be remedied by adding a small quantity of malt extract. Some form of diuretic is useful and palatable to the patient, such as imperial drink or fresh lemonade. If diarrhoea persists and is excessive, tinct. opii ℥v-xv in two ounces of starch given as an enema is usually sufficient. Meteorism is frequently relieved by small quantities of salol, one grain for each year of life up to five grains given *ter die*. Ol. cinnamom. mj in mucilage has other advocates. Where there is constipation an enema every third day will be all that is necessary. Myocarditis, if severe, as evidenced by a feeble and irregular pulse and muffled first sound, should be treated by strychnine, either hypodermically or by mouth, and brandy may be given in quantities, cf. ʒiij-xij in the twenty-four hours, in divided doses according to age. Hæmorrhage rarely needs treatment, and perforation requires the surgeon. The toilet of the mouth is most important; listerine, glycerine and chinisol, glycerine borax and myrrh, or other antiseptic remedies, should be constantly applied. The greatest gentleness should be used in swabbing the delicate epithelium of the child's mouth. Too energetic measures not infrequently do more harm than good by causing abrasions, which allow the entry of septic micro-organisms. The greatest care should be taken with soiled linen and in bathing the patient regularly. Where restlessness, delirium, and high temperature are prominent features, sponging with tepid or cold water will usually produce immediate relief. Children bear extremes of temperature exceedingly badly. Cold baths and ice are not to be recommended. In the majority of cases attention to the diet and bowels will be all that is necessary.

THE SURGICAL ASPECTS OF ACUTE ABDOMINAL DISEASE IN CHILDHOOD.*

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INFLAMMATION OF THE DIVERTICULUM OF MECKEL: DIVERTICULITIS.

STATISTICS showing the frequency of the persistence of the omphalo-mesenteric duct vary, but it may be said that the duct persists in some part in about 2 to 4 per cent. of bodies. Its most frequent site of attachment is to the convex border of the ileum about 39 inches above the ileo-cæcal valve, *i.e.* to a portion of the intestine which may be assumed to occupy the lower abdomen or the pelvis. This site of attachment is by no means constant, for it may be found higher or lower in the small gut; it is stated that it has been seen in the duodenum and in the large gut. But in all probability diverticula attached to these portions of the bowel permit of a different origin, and are not the diverticula of Meckel.

The anomalies of Meckel's diverticulum are various, but the only one which concerns us in this connection is that in which the diverticulum is represented as a true appendix to the ileum—the ileal appendix, as it may be termed in comparison with the appendix vermiformis, which may be regarded as the cæcal appendix—possessing a lumen communicating more or less freely with that of the bowel from which it springs.

One of the earliest records of this disease is that by Houston in 1834, who described a typical case of chronic inflammation of the diverticulum. In 1847 Denucé records the autopsy upon a man who died of peritonitis due to the perforation of the diverticulum of Meckel. In 1851 Beale described a similar case. Galton, in 1872, records the autopsy upon a child who died from typhoid fever; a perforation of an ulcer was present at the extremity of the diverticulum. Fitz, in 1884, showed a Meckel's diverticulum with three large tuberculous ulcers. Picqué and Guillemot, in 1897, record one of the earliest operations, this being undertaken for supposed appendicitis. These are amongst the earliest authors to point out the similarity between this disease and appendicitis. Blanc, in 1899, wrote a thesis upon the subject, recording nineteen observations. Since then the records of cases have multiplied, and many

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papers have appeared upon the subject, amongst which may be mentioned that by Denecke in 1902, by Hilgenreimer in 1903, and Cahier in 1906. In 1907 Forgue and Riche published a monograph upon the diverticulum of Meckel, in which considerable space is given to inflammation of the structure. It is seen from this brief *résumé* of the literature that the disease, although by no means frequent, has attracted a considerable amount of attention. It is also to be noticed that the diverticulum is liable to be affected by diseases similar to those affecting the intestine from which it arises, viz. typhoidal and tuberculous ulcers, in addition to the acute infection by pyogenic bacteria. Diverticulitis is, of course, not limited to the child; indeed, the most frequent age appears to be between fifteen and twenty-five years of age, only about 3 per cent. of recorded cases having occurred under ten years of age.

A careful distinction must be drawn between primary and secondary diverticulitis. By primary diverticulitis I mean that the inflammation is the first lesion; by secondary an acute infection of the diverticulum occurs consecutively to some gross vascular disturbance, as when the diverticulum forms a part of a constricting band by which a coil of gut is snared, or is strangulated in a hernial sac. It is only the primary form which concerns us now.

In some respects the ileal diverticulum resembles the cæcal diverticulum, but even if the resemblance were perfect, diverticulitis could be nothing like so frequent an occurrence as appendicitis, since the diverticulum is only present in 2 to .4 per cent. of bodies. The resemblance is, however, very imperfect. The appendix is attached to a portion of the bowel where normally some delay in the contents occurs, and where the growth of micro-organisms is known to be very free, whereas there is no delay in the contents at the site of attachment of the ileal appendix. The appendix has a relatively narrow lumen, and perhaps sometimes a valve guarding its orifice impeding the escape of its contents; this is not the case in the ileal appendix where in the majority of cases the lumen is of considerable size and the aperture of communication is as large. The appendix is a more fixed structure by the arrangement of its peritoneal connections to the cæcum and to the mesentery, whereas the ileal appendix (in the majority of cases where diverticulitis has been recorded) is attached to a movable portion of the bowel, and is not fixed by any mesentery, and only unusually by a band representing the distal remains of the tube or the omphalo-mesenteric vessels. The cæcal appendix contains much lymphoid tissue and relatively very thick muscular walls, whereas the

lymphoid tissue in the ileal appendix is very sparse and the muscular walls are very thin in proportion to the width of the lumen of the tube. In some specimens the muscular coverings of the diverticulum are deficient in part, and the mucous and peritoneal coats are in apposition; hence when infection does occur it is easy to see how early diffuse peritonitis may arise.

It is difficult to conceive what factors predispose to diverticulitis. In the majority of cases, as already mentioned, the opening of communication with the bowel is quite as large as the lumen of the tube. It is true that in a few instances of Meckel's diverticulum there has been observed a very material narrowing of this aperture, and even a valve has been seen to guard it—this was observed by Meckel himself—but such conditions are unusual, and have rarely, if ever, been recorded in cases where the diverticulum has been inflamed. If such were present it could easily be inferred that some impediment to the free escape of contents might ensue and predispose to infection. The diverticulum is very commonly fixed, either directly or by the medium of a fibrous band (the omphalo-mesenteric cord) to the umbilicus, or if this connection has been lost a secondary adhesion may fix the diverticulum to the mesentery or peritoneum elsewhere. Such fixation might in the various movements of the bowel and diverticulum tend to kink the latter and produce a hindrance to drainage and predispose to infection. But it is a noteworthy fact that in the majority of cases in which diverticulitis has been recorded such fixation has been absent. In one of my cases such a band was distinctly present. Foreign bodies, such as fish-bones, apple-seeds, or round-worms have been found in the ileal appendix (and the large size of the aperture of communication with the bowel renders their entry an easy matter). These tend to occlude the orifice, and hence would predispose to infection. Indeed, this association has been recorded more than once. Fæcal concretions have also been observed in association with diverticulitis, but whether these had entered from the bowel or were directly due to inflammation of the diverticulum it is not easy to determine. Rarely trauma has been held responsible, as it has for the development of appendicitis, and cases are recorded where diverticulitis occurred within a few hours after some injury to the abdominal wall. There is no doubt that the diverticulum may share in the several diseases of the bowel from which it springs, for tuberculous ulcers and typhoid ulcers have been recorded. It may be noted in this connection that diverticulitis has occasionally been preceded by chronic gastro-enteritis, habitual constipation, gastric

troubles and indigestion. But it is not certain whether such symptoms might not have been produced by a chronic inflammation of diverticulum. In those instances where the wall of the diverticulum is very thinned and perhaps deficient partly in its muscular covering, and where little recesses or small secondary diverticula are present, a little accumulation of intestinal contents in such pouches might easily excite an infection. But such are very rare. When all has been said it is by no means certain why diverticulitis should arise unless some fixation or kinking of the tube is present, and judging from recorded cases this is unusual. Very rarely has the diverticulum been seen snared by a band, and equally rarely is the diverticulum attached to the bowel-wall, as it were, by a pedicle, and the latter has undergone torsion. In such rare instances it is easy to understand the occurrence of an acute infection.

Clinically diverticulitis resembles appendicitis. We recognise, as in the appendix, the simple resolving inflammation which leaves its impression upon the diverticulum, the localised abscess, and the diffuse peritonitis; also the relapsing form may be recognised, and when once the diverticulum has been inflamed, probably it becomes fixed by inflammatory adhesions, and hence is predisposed to further disease. The clinical picture of each variety is precisely similar to that of appendicitis, and from it cannot be differentiated. I am not aware that a correct diagnosis has been made in any case. If we have an opportunity of seeing such a case in the early hours of the illness, we should have the history given of abrupt abdominal pain, perhaps vomiting, some fever, and local tenderness and muscular rigidity. The confusion with appendicitis is enhanced, since the diverticulum will lie probably in the lower abdomen towards the right side, precisely in the position in the appendix. If an abscess forms, the swelling will occupy the right lower region of the abdomen in all probability. There are exceptions to this; the abscess may be more median in position or may occupy the lower left region, but an appendicular abscess may also occupy such positions, and the differential diagnosis is practically impossible. In the ultra-acute cases diffuse peritonitis will be diagnosed, and will be considered of appendicular origin, as this is the most frequent cause. If symptoms relapse, recurrent appendicitis will, in all probability, be diagnosed, and an operation undertaken accordingly. Relapsing diverticulitis has been very rarely recorded in the child.

The *treatment* is similar to that of appendicitis. Early operation is essential for the same reasons as it is in appendicitis. If this early operation be performed, almost certainly it will be undertaken

upon the belief that the appendix is at fault. When, after exposure, the appendix is found to be healthy in the child, the two conditions which should at once be thought of are pneumococcal peritonitis and diverticulitis.

INTUSSUSCEPTION.

Intussusception in frequency is second only to appendicitis as an acute abdominal disease in childhood demanding immediate operation. The vast majority of intussusceptions concern the ileo-cæcal region: this was so in twenty-six of my twenty-eight cases. In one exception the invagination commenced two inches beyond the valve in the colon, and in the other the intussusception was entirely enteric. In the majority of cases the ileo-cæcal valve forms the apex of the invagination, although in many of such, after reduction of the ileum, it is seen that the caput cæci is inverted into the cæcum; this, however, is not the primary invagination. Less frequently the invagination commences in the lower ileum, the so-called ileo-colic variety.

Before the occurrence of the intussusception the children have been almost invariably in perfect health; occasionally a little bowel irregularity has been recorded. In no case was a tumour found as a cause of the invagination.

Early infancy is the most common age for intussusception. In no less than twenty out of twenty-eight cases the baby was under twelve months of age, and of these nine were under six months.

The *symptoms* of an intussusception are well known. The abrupt onset, with paroxysmal screaming fits of pain, perhaps vomiting (but this is very inconstant), the sudden collapse and the passage of blood and mucus by the bowel are regarded as the cardinal symptoms. None of these symptoms are, however, distinctive, but are merely suggestive. Perhaps the sign which has been considered as most distinctive is the passage of blood and mucus *per anum*. I would point out that this is not present until some hours after the commencement of the invagination. Indeed, in my experience it is rarely noticed until five or six hours have elapsed. In some of my cases it has not been present for ten, twelve, seventeen, and thirty-six hours after the initial symptoms. In one case it was delayed until the sixth day, and in some cases I have operated before its occurrence, although the blood has been present in the bowel as it has been voided after the operation.

There is *one sign* of an intussusception, and that is its palpation. The tumour of an intussusception is quite characteristic. The

elongated and rounded shape, the alternate hardening and softening and the mobility are almost diagnostic. The abdominal wall is perfectly lax save when the infant is crying, and between the paroxysms of pain the tumour may be palpated with ease. If the infant cannot be pacified and symptoms suggest an intussusception a whiff of anæsthetic should be given; the merest whiff will suffice, and this is all that should be given, for any anæsthetic adds materially to the shock. This, however, will rarely be found necessary. At what period in the stage of the disease this tumour can be felt must be variable. I take it a certain amount of swelling of the intussusceptum must be present before a distinct tumour will be palpated. The earliest case of intussusception which I have seen was two hours after the onset of symptoms and there was no doubt about the tumour then. In twenty-six out of the twenty-eight cases I have felt this tumour without any uncertainty whatever. In the two cases in which the tumour was not felt there was an obvious reason. In one the intussusception had been present for four days, and in the other two weeks before coming under observation. In both the abdomen was very considerably distended, and the intussusception, lying behind many layers of distended intestinal coils, was entirely out of reach.

Intussusception is a disease which we have an opportunity of seeing in its early stages in the majority of cases. Parents recognise at once that there is something seriously wrong and seek advice without delay. The key to the *diagnosis* is, to my mind, entirely in the palpation of the tumour. I believe it can practically always be felt. Occasionally, however, one reads of cases in which an intussusception was concealed under the ribs, and could not be palpated. Such cases, however, must be very rare. For if one considers the method of spread of an intussusception commencing in the ileo-cæcal region, it will have assumed some proportions when it reaches to the ribs, and it is inconceivable almost that a portion of the tumour might not be felt. There is practically only one condition with which it may be mistaken, and this is, fortunately, as far as we know, a rare condition. I refer to what Dr. Sutherland has called "gastro-intestinal crises from effusion into the bowel-wall" ('Proc. Roy. Soc. Med.,' 1909, ii, Med. Sect., p. 265). Occasionally it happens that a child is affected abruptly with the symptoms which suggest an intussusception, viz. the colicky pain, vomiting, and the passage of blood by the bowel. I have seen three such cases. Not feeling the tumour upon which I rely for the diagnosis of an intussusception, I did not operate. The symptoms disappeared very quickly. At the time I was inclined to regard such cases as

examples of the spontaneous reduction of an intussusception, not being able to offer any other solution. Although there is evidence to show that an intussusception may undergo spontaneous reduction, I think the majority of such cases are explained by the occurrence of a hæmorrhagic effusion into the bowel-wall, some of which escapes into the lumen of the bowel and is passed through the anus. Why such effusion occurs it is not easy to say. The condition appears to be frequently associated with Henoch's purpura, *i.e.* a variety of the hæmorrhagic diathesis associated with attacks of abdominal pain and the passage of blood *per anum*. In some such recorded cases the diagnosis is simplified by the simultaneous occurrence of hæmorrhages into the skin, the presence of joint signs, and perhaps a little fever. In others, however, the cutaneous lesions may not occur until after the intestinal crises. In others, again, the cutaneous lesions may be entirely absent. The effusion may be large enough to occlude the lumen of the bowel, and intestinal obstruction may be present; and furthermore, the hæmatoma into the bowel-wall may be felt as a tumour which has very similar characteristics to that of an intussusception. In the absence of a tumour I should hesitate to diagnose an intussusception. When a tumour is present and other signs of purpura are absent, I know of no means by which a differential diagnosis may be made. When a tumour is present and cutaneous signs of purpura are also present, the natural inference is that the tumour is not an intussusception, but a hæmorrhagic effusion into the bowel-wall. But a word of warning is necessary, for the two—effusion into the bowel-wall and an intussusception—may co-exist, the effusion into the bowel-wall being the direct cause of the intussusception. I know of no way in which a certain diagnosis may be made, unless it be that an intussusception will tend to increase and extend further along the bowel, and hence its position will more or less rapidly change. It is probable that a hæmorrhagic effusion into the bowel-wall may be the starting-point of an intussusception more frequently than is supposed. In one of my cases symptoms had been present for four days, in one six days, and in one seven days. In all three there was an entire absence of any abdominal distension, and the intussusception was reduced with comparative ease. In these it appears probable that the early signs might have been caused by hæmorrhage into the bowel-wall, and the intussusception was quite a recent occurrence.

The only *treatment* I have practised is reduction of the intussusception through a laparotomy wound. But previous to this I

make it an invariable rule to administer saline infusion subcutaneously. This improves the condition of the infant very greatly, and tends to render the shock of the operation much less. If necessary this saline infusion can be continued during the operation, and in the majority of cases it is advisable to repeat it after operation. Rectal infusion is not well tolerated in an infant, and is prohibited in these cases of intussusception, for it tends to be voided almost at once with the blood and mucus which is present in the bowel.

The *prognosis* of an intussusception is quite good. Twenty-three of my twenty-eight cases recovered. Of the five fatal cases, three were instances of irreducibility in infants. In the two fatal cases where reduction was possible, in one symptoms had been present for four days, and the babe was extremely ill, with a very distended abdomen. Practically all such cases in infancy are fatal. In the other, although symptoms had only been present for seventeen hours, the infant was, contrary to the rule, wasted, and in very poor condition.

In only one instance did a child at a later period again suffer from an intussusception. This was a child upon whom I operated on three separate occasions, at intervals of three months or so, for an ileo-cæcal invagination.

Excluding intussusception, *intestinal obstruction* is not common in the child. Perhaps obstruction by a band and by adhesions are equally common in frequency. The band is practically always a Meckel's diverticulum in one or other of its varieties. In addition to intestinal obstruction, the bowel is snared by the band, and also may undergo torsion around its mesenteric axis. These cases are usually very acute. The symptoms are very well known.

Adhesions are nearly always the result of tuberculous peritonitis, previously known to exist, or often entirely unsuspected. These adhesions, which may glue bowel to bowel, may be very complicated or very simple. One not infrequent form is adhesion of a coil of bowel to a caseating tuberculous gland: I have met with two varieties of this.

In one of my cases obstruction was produced by a mass of caseating tuberculous glands in the lower mesentery; these had reached such a size as to form a large palpable mass, and had so stretched the gut over them as to occlude its lumen. The glands were so extensive that removal was out of the question: all I could do was to incise their capsules and curette the contents away. This treatment was efficient, as the boy is now perfectly well.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Provincial Meeting, held at Addenbrooke's Hospital, Cambridge, on July the 8th, 1911.

(Continued from p. 366.)

Infantile Spastic Paraplegia.—**MR. C. SEARLE.**—Father, an only child, at the age of $3\frac{1}{2}$ years had a sudden paralysis of the right arm, left leg and right side of face, which came on after a hot day with violent epistaxis suddenly in the night; had difficulty in swallowing and could not talk properly. After fifteen months power gradually returned except in the face. Mother healthy.

One brother, a perfectly healthy child at birth, when aged 1 year and 8 months had a fall on the back of his head, and after that was unable to walk or talk; deficient power in left arm. Knee-jerks exaggerated. Extensor response. Loss of power in the neck. Admitted to Great Ormond Street Hospital for progressive upper neuron degeneration of unknown causation, ? injury. Treated with potassium iodide. Had difficulty in swallowing and finally became totally paralysed. Died aged 2 years and 7 months. Patient was a perfectly healthy and intelligent child until 8 months old. One day had a fit which lasted an hour, and was followed by a paralysis of both arms, legs and back. Control of bladder and rectum perfect. In August and December, 1910, and March, 1911, great difficulty in swallowing and a high temperature. Apparent improvement with potassium iodide. Had "screaming fits" which were getting more frequent, clenched the teeth, became rigid, and passed water after the fit. Knee-jerks exaggerated, ankle clonus and Babinski's sign present. Marked spasticity in the legs, less in the arms. Could sit up. Could not talk but seemed fairly intelligent. Sight good.

Goitre.—**MR. W. H. BOWEN.**—A girl, aged 16 years, had a very large parenchymatous goitre. The swelling caused no dyspnoea and no difficulty in swallowing but was rapidly increasing in size, so it was proposed that one half should be removed.

DR. H. B. RODERICK showed specimens of the following cases among many others:

(1) **Myeloma of Upper End of Humerus.**—Vertical section of the upper end of the humerus of a child, aged 7 years. The shaft, for a distance of about 3 in., was expanded into a thin-walled cavity, the highest part of which corresponded with the epiphysial line, except at the inner aspect, where a small wedge-shaped area of the normal cancellous bone of the upper end of the diaphysis remained. The interior of the cavity was quite smooth, though here and there the osseous shell bounding it was thinner than elsewhere and translucent. Microscopic sections of one of the chief membraniform septa in the cavity showed it to consist of spindle-celled connective tissue in which

considerable numbers of multinucleated giant-cells occurred. The boy fell eight months previously and complained of having hurt his left shoulder. On examination nothing abnormal was detected. During the following seven months the boy never used the arm quite freely, and always complained of it hurting him if it was suddenly jerked. Another fall, hurting the arm in the same place, brought him again under observation, when the upper third of the arm was found to be enlarged—due, obviously, to bony expansion. A skiagram confirmed the diagnosis of new growth, and amputation was performed. On removing the soft tissues the scalpel broke through a thin shell of bone, from which clear, dark straw-coloured serum flowed.

(2) **Sarcoma of Small Intestine.**—The child was only aged 3 years, and 6 ft. 5 in. of the small intestine were removed owing to the encroachment of the growth on the mesenteric blood-vessels. The growth was a round-celled sarcoma. The child made a good recovery from the operation and for a time gained weight at the rate of 2 lb. a week.

(3) **Sloughing Tonsil; Fatal Hæmorrhage from Internal Carotid.**—From girl, aged 1 year and 5 months. Patient had measles one month previously, followed by a "lump" in the neck of two weeks' duration. Brought into hospital vomiting blood. Shortly after admission she had profuse hæmatemesis and died.

(4) **Ulceration of Internal Jugular Vein.**—From boy, aged 1 year and 8 months. Measles three weeks previously, followed by discharge from ear and enlargement of glands in neck. An abscess in the right side of the neck was opened. Twenty-four hours later there was a sudden profuse hæmorrhage from the wound, which proved fatal.

Dr. J. ALDREN WRIGHT showed: (1) **Heart from an Infant aged 6 Months.**—The specimen showed (1) incomplete interventricular septum; (2) a small conus arteriosus terminating in a small pulmonary artery with defective valves; (3) large aorta, communicating directly with the right ventricle. The infant was very cyanosed. Hæmoglobin, 118 per cent. Red blood-corpuscles, 8,460,000. Loud systolic murmur in the pulmonary area.

(2) **Femur and Tibia from a Case of Infantile Scurvy.**—The specimen showed the separation of the periosteum from the shaft of the bones by blood, and a separation through the upper epiphysial line of the femur. The infant was aged 10 months. Had been ill for three months with "rheumatism." Was rickety. Had spongy gums. Hæmorrhage along both upper and lower extremities. Had diarrhœa and died.

Heart showing an Infective Polypoid Thrombus in the Pulmonary Artery, and extending into the Right Ventricle.—Dr. T. R. WHIPHAM.—The specimen showed a large elongated thrombus almost entirely blocking the pulmonary orifice. In the pulmonary artery, about a quarter of an inch above the valves, was a roughened area, to which the thrombus was attached in a recent state. The tricuspid, mitral, and aortic valves showed no lesion. There were no abscesses in the lungs or elsewhere.

The patient was a girl, aged 11½ years, who, during life, presented a loud

churning rumble in the pulmonary area, obliterating both sounds and extending throughout both systole and diastole with a rising and falling cadence. The murmur was typically that described as diagnostic of patent ductus arteriosus. The child was under observation for seven months, and during the last three and a half weeks signs of an infective process were present. The temperature became hectic in type, ranging between the extremes of 96° and 106° F., and numerous rigors occurred. Staphylococci were cultivated from the blood, but injections of serum had no effect.

A Skull from a Case of Idiocy of the Mongolian Type.—Dr. G. S. HAYNES.—The child presented all the usual features, and died of bronchopneumonia. No congenital heart disease or defects of other organs. The child was the ninth of a family of ten. The eldest was a microcephalic idiot and an epileptic. Age at death two years and eight months.

The Portals of Entry in Tuberculosis.—Dr. L. COBBETT.—After a brief historical sketch of the recent aspect of the controversy, Dr. Cobbett proceeded to discuss the various surfaces through which tubercle bacilli might conceivably enter the body. The conjunctiva, the mammary ducts, the urinary and genital tracts he passed over, as, at most, uncommon portals of entry. The main portals of entry were the skin and the mucous membrane lining the alimentary canal and the bronchi. The skin seemed to be seldom the portal for severe and fatal tuberculosis. Lupus, of course, arose as a primary skin affection, and not infrequently the skin was infected with tuberculosis through wounds received at post-mortem examinations of men and animals. In such cases there was usually a lesion at the portal of entry without disease of the nearest lymphatic glands, though tuberculosis of the axillary glands had occurred in some cases and had been observed to follow a wound of the hand which itself showed no evidence of being tuberculous.

The problem was whether the tubercle bacilli which caused phthisis entered through the mucous membrane of some part of the alimentary canal or through that of the bronchial system. This was a practical and not merely an academic question, for on its solution must be based measures of practical hygiene. The really important question was, were we to continue to regard the phthisical patient as the main source of tuberculous infection?

Dr. Cobbett then went on to criticise the work of Calmette and the Lille school in general, on which was mainly based the modern view that phthisis was of intestinal origin.

The feebleness of Calmette's and Guérin's experimental work as a support to their sweeping conclusions had been clearly exposed recently by Sir John McFadyean. The experiments were, indeed, few in number, and revealed no new facts. The one case which lent most support to Calmette's theory, namely, that of a goat which developed extensive and severe lung tuberculosis after being fed with tubercle bacilli, was not beyond criticism. The use of a stomach tube employed by Calmette in feeding experiments was condemned, and seemed to the author rather to provoke the passage of some of the food material into the bronchi than to render it impossible.

The experimental work of Vansteenberghe and Grysez, which formed part of the basis of Calmette's theory, was rejected. Many experimenters, including himself, had failed to confirm it. Only Sir William Whitla and Prof. Symmers had got similar results, and the same source of error seemed to pervade both investigations. Dr. Cobbett believed that they had mistaken the natural anthracosis of the adult guinea-pig bred in towns for the result

of feeding with Indian ink or powdered carbon. He himself had failed to find any trace of anthracosis after feeding country-bred guinea-pigs with Indian ink. Neither Vansteenberghé nor Whitla made any mention of control guinea-pigs.

With regard to the assertion that air-borne bacteria cannot enter the lungs unless there be some malformation, Dr. Cobbett quoted the inhalation experiments made by Hartl and Hermann with *B. prodigiosus*, and by Bartel and Neumann with tubercle bacilli, and his own confirmation of them. If even small quantities of these bacilli be sprayed into the air breathed by guinea-pigs they may be found in the remoter part of the air-passages five minutes later. In his experiments with guinea-pigs inhalation tuberculosis always commenced in the lungs and bronchial glands, deglutition tuberculosis in the intestine and mesenteric glands. Moreover, he had found in making cultures from the various organs of many different kinds of animals that while the other organs were usually sterile, or at most yielded a colony or two, the lungs invariably gave rise to many colonies of moulds, streptothrices, spore-bearing bacilli, and sarcinæ—in fact, just those bacteria commonly got from the air.

In judging the results of feeding experiments on animals, one must not lose sight of the possibility of some of the infective matter getting aspirated into the lungs. This had been shown to be a real source of error by the experimental work of several German observers, including Beitzke. He had himself independently arrived at the same conclusion, for he had found that when rabbits and guinea-pigs were fed with *B. prodigiosus*, in spite of every precaution, when the animals were killed and cultures made from their lungs a few colonies of this micro-organism always appeared on them. The contamination of the lungs with food material was not a gross one, for the test employed was a particularly delicate one, but it was sufficient to throw grave doubts on the intestinal origin of pulmonary tuberculosis following feeding experiments.

Dr. Cobbett then referred to the work recently carried out at Breslau, particularly by Findel, and to that of Rossel Weber and Heuss and others working for the Tuberculosis Committee of the Gesundheitsamt in Berlin, showing that it takes at least a thousand times as many tubercle bacilli to infect an animal by feeding as it does to infect one by inhalation. This he explained on the grounds that the mucous membrane of the intestine, being constantly exposed to swarms of bacteria (compared to which those in the bronchi were a mere nothing), the defensive powers of its lymphoid tissue and lymphatic glands were more highly developed than those of the lungs.

The intact mucous membranes were constantly being penetrated by bacteria of various kinds, and consequently came in for a good deal of daily work. He had found that the mesenteric glands of animals almost constantly contained bacteria. Feeding experiments by Ravenel and by Griffith for the Tuberculosis Commission had shown that tubercle bacilli in dogs might reach the mesenteric glands in a few hours. They seldom, however, got beyond, though some of Griffith's experiments seemed to show that an occasional bacillus might, in exceptional cases, escape through them and reach some distant organ. Griffith himself failed entirely to find them in the chyle of dogs previously fed with them.

The lymphoid tissue in the mucous membranes and the lymphatic glands were placed at all the portals of entry, and were the true guardians. Hence tuberculous lesions were so commonly found in the glands. They indeed might be said to mark the portals of entry of tubercle bacilli. That in

some cases the mucous membrane through which the bacilli had penetrated lymphatic glands might escape and tuberculosis be primary elsewhere he did not actually deny, but he was sceptical, for post-mortem records of such cases were not numerous. Quite lately in a fatal case of caries of the dorsal vertebræ he had found an old calcareous mesenteric gland. In how many cases of apparently primary hip disease and the like would a tuberculous gland be found if carefully looked for?

The relative susceptibility to tuberculosis of various tissues and organs was then discussed. The cause of this was largely anatomical. The mucous membranes of the intestine and bronchi were directly exposed to bacilli; the lymphatic glands were the next to receive them. And after that they must pass through the lungs before they could reach any other organ. But there were also differences in inherent susceptibility due to differences in capacity of various tissues to destroy tubercle bacilli, or to differences in their powers of arresting them, similar to the differences which had been shown to exist in their powers of taking up pigments, such as carmine, introduced into the circulating blood. He thought that the latter was the true explanation, for though differences probably existed in the destructive power of different organs, yet the more destructive organs were probably also the more likely to take up the bacteria. He had been much impressed, when working for the Tuberculosis Commission, by what might be called the influence of dose. Small doses of tubercle bacilli might suffice to infect one animal but not another, but large doses would infect them all alike, the less susceptible as well as the more susceptible individuals. He had observed in the grouse, in the rabbit, and quite recently in the sheep, that intestinal parasites (nematode worms and coccidia), which caused minute lesions in the mucous membrane, opened the door to the entry of intestinal bacteria (especially of *B. coli*) into the liver and other organs. In like manner the frequency with which tuberculosis occurred after measles and other specific fevers was possibly due to lesions in the mucous membrane of the bronchi and intestines which widely opened the portal to tubercle bacilli and admitted them in numbers which there was no resisting.

In the case of the phthisis so prevalent among those following dusty occupations, he suggested that sharp particles of grit might act as minute inoculating needles. In all the dusty occupations much troubled with phthisis, the Cornish and South African miners, and the potters, the dust contained sharp spicules, while among the coal miners, in whose case the dust was not sharp and capable of pricking the mucous membranes, though their lungs became infiltrated with dust, phthisis was no commoner than among other men.

In conclusion, the speaker said that while he had no doubt that tuberculosis was frequently of intestinal origin, especially in children, inhalation was the common mode of infection, not in phthisis only, but in other forms of tuberculosis also, especially in the numerous cases in which the bronchial glands seemed to be the parts first affected. (*Author's abstract.*)

A lengthy discussion ensued, in which the PRESIDENT, Mr. C. LUCAS, Mr. A. WHITELOCKE, Dr. H. D. ROLLESTON, Dr. T. R. WHIPHAM, and Dr. M. FLETCHER took part.

In his reply, Dr. COBBETT expressed the opinion that the bovine type of tubercle bacillus was less virulent for man than the human type; and he made a rough estimate based on the cases investigated by the Royal Commission and by the Gesundheitsamte in Berlin which put the proportion of deaths due to tuberculosis of all kinds which was attributed to the bovine

bacillus at 7 per cent., or roughly 3800 deaths per annum in England and Wales, as compared with 50,000 caused by the human type of bacillus.

Society of Infant Consultations.

A GENERAL MEETING of the Society was held on Thursday, July the 13th, at the Marylebone Dispensary, 77, Welbeck Street, at 5 p.m.

Dr. ERIC PRITCHARD explained that the object of the meeting was to ascertain the opinion of members with regard to the proposed scheme of amalgamation with the Department of Schools for Mothers of the National League for Physical Education and Improvement. The new organisation would be called the Association of Infant Consultations and Schools for Mothers, and would have a much wider field of usefulness than under the present conditions. The secretarial duties would in future be carried on by the permanent staff of the League.

The new scheme, which was proposed by Dr. LANGMEAD and seconded by Miss FITZGERALD, was unanimously adopted by the meeting.

A paper was subsequently read on breast-feeding and the value of the test-feed by Dr. ERIC PRITCHARD, Dr. RONALD CARTER, and Dr. PITT.

In this paper a vast number of statistics derived from estimations of breast-feedings conducted at the Marylebone and Kensington Infant Consultations, at the Marylebone Workhouse and the Queen's Hospital for Children were analysed and discussed.

It was shown that these figures did not in the least agree with statistics furnished by foreign observers, on which our ideas with regard to the requirements of artificial feeding were chiefly based. The advantages of the test-feed for the purposes of diagnosis and treatment were illustrated and emphasised.

It was pointed out that breast-fed infants subsisting on an average of $6\frac{1}{2}$ oz. of milk per diem made better progress than those who were receiving $2\frac{5}{8}$ oz. per diem, and also gained more rapidly in weight.

The paper was discussed by Dr. LANGMEAD, Dr. ROBERTSON, Dr. LANE-CLAYTON, Mrs. GREENWOOD, Miss FITZGERALD, and other members of the Society.

Philadelphia Pediatric Society.

June the 13th, 1911, J. TORRANCE RUGH, M.D., President.

Early Operation for Psoas Abscess.—Dr. JAMES K. YOUNG showed a boy, aged 6 years, who developed tuberculosis of the spine with psoas abscess, which was recognised by flexion on the opposite side of the thigh,

high temperature, leucocytosis, and a tender point in the loin of the affected side. The condition was verified by the X-ray and tuberculin test. Dr. Young performed the Treves' operation, making a lumbar incision, with the centre over the transverse process of the lumbar vertebræ, dissecting down to the psoas muscle and evacuating the abscess. He used a blunt instrument to open the abscess, kept up drainage for a few days only, and recovery rapidly followed. A splint brace was then to be worn for a year or so.

New Splint for Hip Disease.—Dr. YOUNG also showed a boy, aged 10 years, who had marked symptoms of hip disease two years ago. Extension was applied for two weeks while the special brace was being made. This was applied for one year, and then a convalescent hip splint was used. He had now entirely recovered. The special splint consisted of a body, thigh, leg and foot portion, all made of hard leather, over a cast taken from the patient standing with the limb slightly abducted. The cast extended from the axilla to the toes. The body portions made over the cast were connected by a bar of steel passing down the back of the body and limb. Opposite the calf the extension was provided and the leather portions were secured with lacings. Two perineal straps were used and the patient walked with a high shoe and crutches. The splint was applied in the recumbent position, the brace being half an inch longer than the limb. The patient was laid into the brace, the body portion was laced, the perineal straps were applied, the foot was pulled down into the foot-piece so as to make extension, and was secured by lacing; later the thigh and cap portions were also laced. The splint combined traction and fixation, was very light and comfortable, and patients made more rapid recovery with its use than by any other form of apparatus.

Dr. RUGH said that recovery with function was the result desired in such cases. If they were seen early and the diagnosis was made early, good results were possible. But many cases advanced without recognition by the attending physician, abscess occurred, and recovery with function became impossible. Yet Dr. Rugh recalled a case of hip-joint disease in which curetting and removal of the head of the bone were done, but three quarters of normal range of motion resulted.

Dr. YOUNG then demonstrated the splint on and off the patient.

Microsomia.—Drs. CHARLES A. FIFE and BORDEN S. VEEDER showed a girl, aged $6\frac{1}{2}$ years, who was normal at birth, and grew until eighteen months old, but had not grown any since. Alcoholism in the mother; parents and other children of normal size. Table foot was begun at eighteen months of age. She had several attacks of diarrhoea during her second summer, also pertussis and measles. Her total length was $80\frac{1}{2}$ cm.; length, from acromium to spine of ilium, 22 cm.; from anterior superior spine to external condyle of femur, $21\frac{1}{2}$ cm.; from external condyle to external malleolus, $14\frac{1}{2}$ cm.; length of feet, 11 cm.; length from acromium to head of radius, 13 cm.; greatest circumference of head, $44\frac{1}{2}$ cm.; circumference of chest, 45 cm.; circumference of abdomen at umbilicus, 45 cm. There were no signs of cretinism, rachitis, or tuberculosis. Heart and lungs negative; abdomen slightly distended, apparently from muscular weakness; teeth normal. X-ray showed retarded bony development, the wrists showing but four centres of ossification, and the bony framework proportional to the rest of the body. Urine and blood examination negative. She could walk, talk, and was of good mentality. Was placed upon nitrogenous balance, and

the urine examined for a week. The nitrogen partition was about normal. Creatinin elimination was .0079 grm. per kilo.

Rachitis.—Drs. FIFE and VEEDER showed an Italian baby, aged 18 months, with marked epiphysial enlargements. X ray showed very little calcification at the ends of the bones, and the shafts of the bones were less than a third of the thickness of the epiphyses. The musculature was exceedingly flabby, and the child did not use feet or legs. The pelvic outlet was narrowed, which, with some bowing and shortening of the femora, produced a condition simulating congenital dislocation of the hip.

Congenital Heart Disease.—Drs. FIFE and VEEDER also showed a girl, aged 2 years, admitted to St. Christopher's Hospital for Children for dyspnoea and lassitude, conditions which had not been present since admission. Mother had tuberculosis. Birth was normal, and child was not a blue baby. Her only illness had been pertussis. She was well nourished; no cyanosis; fingers somewhat suggested clubbing. Heart enlarged to percussion, from second interspace to left nipple line, to 2 cm. to right of sternum. There was a faint thrill, rather diffuse over lower part of præcordium, most marked in the fourth interspace at left border of sternum. A loud rasping murmur, systolic in time, replaced the first sound over the entire heart, with point of maximum intensity over second and third interspaces to left of sternum. It was transmitted through the entire chest, and could be heard in the vessels of the neck. A faint second sound at the end of the murmur was heard at the apex, and at times over the pulmonic area. The liver extended 1 cm. below the costal margin. She had been under observation for some time; neither rest nor exercise seemed to exert any influence on the physical signs. There had been no evidences of loss of compensation. X rays showed enlargement of the right side of the heart, with probably slight enlargement of the left ventricle. The left auricle was not enlarged. A tentative diagnosis of defect in the intra-ventricular septum, with narrowing of the pulmonary orifice, had been made.

Enlarged Thymus Gland.—Drs. H. S. BACHMAN and B. S. VEEDER showed a Yiddish infant, aged 6 months, with enlarged thymus. There was a distinct stridor present, most marked on expiration, increased when the head was drawn backward. X-rays plate showed a shadow corresponding to the area of dullness obtained by percussion over the enlarged gland. The baby was to be treated by X rays.

Dr. FIFE called attention to the great epiphysial enlargement in the case of rachitis. He believed that, in the case of congenital heart disease, lesions of all the valves could be eliminated, leaving the most probable diagnosis a deficiency of the intra-ventricular septum, with possibly constriction of the pulmonary artery.

Dr. JOSEPH SAILOR said the diagnosis of congenital heart disease was often very difficult. He referred to a case in which there was a loud murmur, powerful thrill over the pulmonic cartilage with accentuation of the second pulmonic sound, but at autopsy the only lesion found was hypertrophy of the left ventricle and chronic kidney disease. The X rays were not decisive in determining enlargement of the right or left ventricle, especially in children. In the present case he heard clearly the murmur transmitted to the vessels of the neck and not through the solid tissue. That would indicate aortic disease. He considered it rare to have defective

septum in pulmonary stenosis without cyanosis and polycythæmia was often present. The pallor in the present case was also suggestive of an aortic lesion.

Dr. VEEDEER added that the blood-count in this case was simply that of slight anæmia. While there might be a chance of post-natal infection in the child, the enlargement of the heart, without any signs of loss of compensation, proved it to be congenital. He thought that some narrowing of the pulmonic orifice must be present.

Ununited Fracture of Lower Third of Tibia of Seven Years' Standing.—Dr. RUGH showed a boy, aged 10 years, whose left leg was broken seven years ago, treated by splints, plaster and braces without success. Wiring the bones after a year's time was also unsuccessful. A year later silver plates were used to keep the bone ends in apposition, but extensive suppuration occurred and no results were obtained. When Dr. Rugh operated two months ago there was exaggerated forward bending of the tibia at the point of fracture, with short tendo Achillis. This tendon was cut subcutaneously and the leg forcibly straightened. The site of the fracture was then exposed, the bone ends cleaned, and a piece of bone and periosteum, $\frac{3}{4}$ in. wide and 2 in. long, was cut from the lower end of the upper fragment. This was slipped downward across the break, and sewed to a slit in the periosteum of the lower fragment and to the lower end of the upper fragment. The leg was placed in plaster-of-Paris, and union occurred by first intention. There was now a slight degree of fixation to be elicited, and the indications were that a good result would be obtained. This was a modification of Murphy's method, in which a groove was chiselled in the lower fragment for the transplanted piece. The case was one of two upon which Dr. Rugh had operated within two weeks of each other, with favourable prognosis in each case.

Dr. YOUNG asked what had been done with the fibula, as this bone usually caused trouble in such cases by producing deformity from its more rapid growth. These cases were interesting from the fact that many of them come to the orthopædic surgeon after having passed through the hands of the general surgeon. As a rule orthopædic surgeons did not desire to treat fractures, since their work was largely with chronic deformities, and they were better qualified to treat these cases after they had existed for some time.

Dr. RUGH added that both bones had been broken in this case, and he had only freshened up the edges of the broken fibula.

Intussusception.—Dr. HARRY A. SCHATZ, by invitation, showed an infant upon whom operation had been performed at eight months for intussusception. The attack began with vomiting of everything ingested, severe abdominal pain in paroxysms, frequent bloody stools containing mucus, but no fecal matter, scanty urination and shock. The characteristic sausage-shaped tumour was felt in the left iliac fossa, and extending upward to the hypochondriac region. Injection of water under pressure *per rectum*, with the child inverted, failed to relieve the condition. Dr. A. C. Wood operated sixty-five hours after the onset. The lower part of the ileum, cæcum and appendix and the first three inches of the ascending colon constituted the invaginated portion. The bowel was delivered by compressing the large intestine below the site of the tumour. Recovery was rapid and uneventful.

Abstracts from Current Literature.

Medicine.

The importance of radiology in the examination of cicatricial stricture of the œsophagus in children (*Jahrb. f. Kinderheils.*, 1911, LXXIII, p. 704).—**H. Flesch** and **I. Péteri** find the value of this method of examination is as follows: (1) A complete picture of the whole œsophagus is obtained, so that the localisation of the stricture in relationship to the corresponding vertebral body, the degree, the length, and existence of single or multiple stenosis, are made manifest, and also the presence and extent of dilatation above the stricture. (2) If stenoses are present, the rays permit the examiner to find out whether after systematic treatment the œsophagus has regained its functional activity completely and allows of free passage of food. (3) The method can be employed within the first six weeks after swallowing of caustics, and hence at a time when passage of a sound is inadvisable. (4) It is easy to perform and is completely free from danger.

F. R. B. ATKINSON.

Myiasis gastrica (*Riv. di Clin. Pediat.*, 1911, VIII, p. 101).—**M. Condorelli Francaviglia** reports the case of a girl, aged 11 years, living in unhealthy surroundings near a stable and dung-heap, who had repeated attacks of gastric pain and vomiting. After treatment she vomited about 200 larvæ of *Calliphora vomitoria* and *Eristalis tenax*. These, having found their way into the stomach with the food, are protected by their chitinous envelope, resist the action of the gastric juice, and remain alive a considerable time—a month in the case related. The larvæ fix themselves by the buccal apparatus to the gastric mucous membrane, and cause erosions and small wounds which result in bleeding, more or less intense gastralgia, nausea, vomiting, and even attacks of reflex convulsions. The traumatism and disturbance of digestion end in a true gastritis, which is, however, cured as soon as the larvæ are expelled by means of benzonaphthol or naphthaline.

VINCENT DICKINSON.

Foreign body in the intestine (*Journ. de Méd. de Paris*, 1911, XXXI, p. 500).—**Giron** narrates the history of a child, aged 10 years, who passed by the bowel a body of the size and shape of a small pigeon's egg weighing about 1·30 gr. Incomplete analysis revealed the composition of the coprolith as follows: Lime, small amount of magnesia, phosphates and organic matter; no cholesterin or pigment.

F. R. B. ATKINSON.

Œdema occurring in the course of disease of the gastro-intestinal tract in infants (*Practitioner*, 1911, I, p. 686).—**Hugh T. Ashby** finds this symptom fairly common. It generally starts from a week to a fortnight after the diarrhœa has ceased. The infants are usually bottle-fed in a wrong manner, and the œdema mostly appears about the first year. The urine is scanty and often contains no albumen. Post-mortem examination reveals no changes in the kidneys, and in a few cases, cloudy swelling. The symptom is a serious one, but it is by no means fatal. Treatment consists in suitable feeding. The food should contain a high percentage of proteids and a low percentage of carbohydrates and fat. Citrate of potash is the best diuretic.

F. R. B. ATKINSON.

Melæna neonatorum (*Austral. Med. Gaz.*, 1911, xxx, p. 139).—**G. H. Evans** describes a case in which twenty-four hours after birth partly digested blood was vomited, and sixteen hours after this a motion of dark blood was passed. During the next twenty-four hours several motions of the same character were evacuated. The author ordered 1 gr. of CaCl₂ every two hours and teaspoonful doses of alum whey (3j in Oj) frequently. As the child's condition became more serious the drug was increased to two doses of 1 gr. each in three hours. The bleeding ceased and the child recovered. **F. R. B. ATKINSON.**

The clinical aspects of acute appendicitis in children (*Practitioner*, 1911, II, p. 61).—**H. Collinson** finds that appendicitis is the commonest and most important surgical disease of the abdomen met with in childhood, and a large number of cases occur between five and fifteen years of age; under five its frequency is much less. The infantile appendix is comparatively larger than in the adult, its coats more delicate and lymphoid tissue more abundant. The commonest cause is careless feeding. A history of recurrent attacks of stomach-ache should excite the suspicion of appendicitis. Nausea and vomiting may be slight and abdominal rigidity often badly marked. In appendicitis, as a rule, fever appears some time after the initial pain, and cases in which pyrexia is present some time before the pain are probably not cases of appendicitis. A sudden fall of temperature after an initial rise is often a sign of gravity. The author warns against the administration of purgatives in every case of what seems to be a case of gastro-enteritis, and such treatment often leads to dangerous consequences if the case should prove to be one of appendicitis. The prognosis in children under ten years of age, apart from early operation, is bad; if operation is undertaken early, the outlook above five years of age is good, below that age always grave. The author recommends operation at once in the acute stage, *i. e.* within the first forty-eight hours, and the same applies to cases between the second and fifth days. After this time operation is not so urgent, and it may be advisable to wait in the hope that a quiescent period may occur when it should be undertaken without delay. **F. R. B. ATKINSON.**

Pin-worms and caraway seed in infantile appendix (*New York Med. Journ.*, 1911, I, p. 529).—**I. Kornblüh** records a case in a male child, aged 18 months, who had shown no signs of appendicitis. He had been fed on rye bread with caraway seed. During an operation for right inguinal hernia it was thought advisable to remove the appendix, which was 4 in. long. Externally it was normal, but on being opened it was found to contain eight living pinworms and one caraway seed, the latter imbedded in a slight inflammatory exudate. **J. D. ROLLESTON.**

Tuberculous peritonitis with the syndrome of appendicitis (*Arch. de Méd. des Enf.*, 1911, xiv, p. 529).—**A. Galliot** narrates a case in a boy, aged 6 years, of the above disease, the symptoms of which exactly simulated appendicitis. The appendix was removed and was found quite healthy both macroscopically and microscopically. The author refers to other cases in the literature. **F. R. B. ATKINSON.**

Icterus neonatorum and umbilical suppuration (*Wien. klin. Rundschau*, Nos. 44 to 51, October 30 to December 18, 1910).—**Stumpf** reviews the various theories that have been advanced as to infantile jaundice.

After an exhaustive analysis of his own observations upon forty-eight infants with jaundice and fifty-six without jaundice, he concludes that icterus neonatorum does not depend upon an infection spreading from the navel. Its frequency is not diminished by a treatment of the cord and navel that practically excludes such infection. It occurs when there is no apparent umbilical lesion. Changes in weight and temperature are quite unaffected by the presence of jaundice. Icterus neonatorum and lesions of the umbilicus are equally disposed to by dragging or rough handling of the cord both during and after birth, more especially when the cord is ready to fall off. The cord should therefore be treated with all possible consideration. After being cut at $1\frac{1}{2}$ cm. it should be dusted with a drying powder, the best for this purpose being sterilised plaster of-Paris. M. D. EDER.

Infantile hepatic abscess; operation; recovery ('*Indian Med. Gaz.*,' 1911, XLVI, p. 137).—W. J. Niblock removed eighteen ounces of pus from a liver abscess in a Hindu boy, aged 11 months, with recovery. The age is remarkable. F. R. B. ATKINSON.

Infantile biliary cirrhosis ('*Indian Med. Gaz.*,' 1911, XLVI, p. 140).—Bhup Singh describes four typical cases in children under two years of age, all of which died. Three cases were nursed by their own mothers, and the fourth was brought up on cow's milk. F. R. B. ATKINSON.

Angio-sarcoma of the liver in an infant ('*Journ. Amer. Med. Assoc.*,' 1911, I, p. 873).—Bondy reports the case of a child, who, when three weeks old, was noticed to have a protuberant abdomen owing to a mass in the upper part. Laparotomy showed that the mass was an enormously enlarged liver, filling three quarters of the abdominal cavity. A small portion was removed for microscopical examination, and proved to be angio-sarcoma. The child died some three months later. The extremities became œdematous, but at no time was there ascites or jaundice. Diarrhœa finally set in, and death occurred from exhaustion. T. R. WHIPHAM.

Hæmophilia ('*Deutsch. Arch. f. Klin. Med.*,' vol. XCIX, Nos. 5, 6. *Abst. 'Interstate Med. Journ.'*).—From the investigation of a considerable number of cases of hæmophilia Sahli has come to the conclusion that the total number of white blood-corpuscles is usually diminished, but as a rule a moderate lymphocytosis is present. The percentage of eosinophiles and mast-cells is strikingly high and the blood-platelets are increased in number. The coagulability of the blood is much diminished, but can be increased by the addition of normal blood-serum or of washed red corpuscles. These observations support the theory that hæmophilia is a disease of the cellular elements of the blood, which probably contains sufficient fibrin ferment but too little thrombokinase. Therapeutically the author advises repeated withdrawals of small quantities of blood and the injection of fresh, normal human serum. The former stimulates the bone-marrow to the formation of fresh corpuscles, and the latter to increased production of thrombokinase. T. R. WHIPHAM.

Further cases of Leishman's anæmia ('*La Pediatria*,' 1910, XVIII, p. 832).—G. di Cristina reports eleven new cases observed in Palermo. They prove that this condition has long existed in this locality, where it flourishes almost exclusively in the children of peasants in the months of

May and June. Generally mononuclears and sometimes neutrophile polynuclears predominate. A few myelocytes may be met with. The red corpuscles are usually diminished in number so that there may be intense oligocythæmia. There is also more or less oligochromæmia, even as much as is met with in pernicious anæmia. The blood condition varies with the stage of the disease. Fever is irregular in type and duration: generally it is cyclic or periodic.

VINCENT DICKINSON.

The pathological anatomy of Leishman's anæmia (*'La Pediat.'* 1911, xix, p. 200).—**G. di Cristina** and **S. Cannata** give a full report of the autopsies in two fatal cases. Some of the changes described were directly connected with infection by Leishman's parasite, others were secondary and dependent on superadded complications. The first affected the liver, spleen, bone-marrow and lymphatic glands, the latter the lungs, kidneys, and perhaps the intestines. The changes in the liver, spleen, bone-marrow and lymphatic glands, concerned the endothelium, in which there was proliferation followed by degenerative, and sometimes necrotic and sclerotic changes. In all cases the authors found marked changes in the large intestine, lesions undescribed by others. Pianese attributes an important signification to the absence of intestinal lesions in deciding the question of the identity of the Indian kala-agar with the Italian Leishmaniosis, and, as is natural, a negative result in Pianese's cases and a positive in the author's takes away some support from this question, which has now no *raison d'être*. The changes in the kidneys and lungs can only be considered complications, and are of no importance as they are not constant. Leishman's parasites were found in the following organs: Liver, spleen, bone-marrow, mesenteric lymphatic glands and follicles of the large intestine. They were always intra-cellular and of various sizes in the same organ. Their size was therefore of no value in determining the age of the infection in each organ.

VINCENT DICKINSON.

Infectious myelocytosis (*'Jahrb. f. Kinderheilk.'* 1911, LXXIII, p. 586).—**P. Jungmann** and **P. Grosser** describe a case of a child, aged 3 years, in whom after a severe enteritis the blood showed such an extraordinarily large number of myelocytes that the suspicion of a myeloid leukæmia was aroused, but on post-mortem examination the presence of this latter disease was negatived. As a result of their examination the authors conclude that, especially in childhood, an infectious disease can produce injury to the blood-forming organs, which damage can be limited to the myeloid system and result in the presence of enormous numbers of unformed medullary cells in the blood. They also found that the number of myeloid cells fell and increased with the number of leucocytes.

F. R. B. ATKINSON.

A case of pseudo-leukæmic anæmia of infancy (von Jaksch) (*'Journ. Amer. Med. Assoc.'* 1910, II, p. 1097).—**Elterich** reports the clinical history and post-mortem findings in a case of von Jaksch's anæmia. The patient was a male aged 13 months, and was one of twins, the other having died from diarrhœa. Signs of rickets were present and purpuric spots were visible in various parts of the body and legs. The lymphatic glands were enlarged, as was the liver, and the spleen was enormous. The blood showed 2,500,000 red corpuscles, 27,500 white, and hæmoglobin 45 per cent., the differential count being—neutrophils 6·5 per cent.; lymphocytes—small 61, large 18·63; transitionals 1·47; eosinophils 0·28; myelocytes—

neutrophile and eosinophile 1·18 each; normoblasts 9·76. The red cells also showed poikilocytosis and polychromatophilia. The child died from bronchopneumonia, gastro-intestinal indigestion and nephritis. At the post-mortem the spleen weighed 5 oz. 15 gr., and was tough. The capsule and trabeculae were thickened and the follicles completely obliterated (microscopically). The pulp was replaced in places by large areas of fibrous tissue and the vessels were thickened; many of the lymph-spaces were dilated. The pulp itself consisted of cells of various sizes with scanty protoplasm, many of the larger ones having eosinophilic granulations. The liver weighed 11 oz. $\frac{3}{4}$ dr., and was of a yellowish-red colour. It was infiltrated with fibrous tissue and the cells were degenerated. In the portal spaces the connective tissue and the vessels were thickened. The kidneys showed parenchymatous degeneration and hæmorrhages.

T. R. WHIPHAM.

Infantile scurvy (*L'Echo méd. du Nord*, 1911, xv, p. 66).—**Deléarde** relates two cases of this disease which followed the prolonged use of butter-milk and humanised milk. The first infant, aged 9 months, had been fed entirely on butter-milk; it was anæmic, and the lower limbs were motionless. The gums were normal, as there were no teeth, and there was no subperiosteal hæmorrhages, but the other signs were plain enough, and all disappeared after the diet was changed. The second case was an infant, aged 11 months, which had been fed entirely on humanised milk, the symptoms were similar to the first, and the effect of treatment was the same. The author lays stress upon the difference between this pseudo-paralysis and that of rickets, which comes on at a later age insidiously and is not benefitted by diet alone.

J. PORTER PARKINSON.

Purpura fulminans (*Arch. de méd. des Enf.*, 1911, xiv, p. 610).—**E. Weill and G. Mouriquand**.—A healthy baby, aged 6 months, breast fed, which had been suffering from slight intestinal disturbance for the last ten days, suddenly developed an infection characterised by fever, extreme tachycardia, diarrhoea and an upward rolling of the eyeballs. About eight hours after the onset two punctiform purpuric spots appeared on the abdomen. The eruption increased with extraordinary rapidity, so that in two hours the child was literally covered with large ecchymoses. Death took place fifteen hours after the onset and six and a half hours from the first appearance of purpura. The two brothers and sisters had had mumps thirteen days previously, but there was no evidence of that disease in the present case. No necropsy.

J. D. ROLLESTON.

Purpura with cerebral hæmorrhage (*Deutsch. med. Wochens.*, 1911, xxxvii, p. 307).—**F. Schmey**.—The patient was a well-developed boy, aged 8 years, who had had scarlet fever two years previously, and had enlarged cervical glands, probably tuberculous. He was brought to Schmey on October 10, with a history of bleeding from the gums for a few days. There was marked lassitude, but no pain in the joints nor pyrexia. On the 15th hæmatemesis occurred, and on the 15th purpura appeared on the body. On the 18th coma developed. Temperature 103·2° F. Death took place the same day. No necropsy.

J. D. ROLLESTON.

Abdominal symptoms in purpura (*Thèses de Paris*, 1910–11, No. 241).—**A. Lavallée**.—This thesis contains the histories of nineteen cases, all but two of which occurred in children. The symptoms may simulate

different affections, especially appendicitis, intestinal obstruction, perforative peritonitis and intussusception. Many of these diseases, especially intussusception, may co-exist with purpura. It is often difficult to decide when surgical intervention is required. Two of Lavallée's personal cases occurred in boys, aged 7 and 11 years, in whom recovery occurred without operation.

J. D. ROLLESTON.

Nephritis as a complication of rheumatic purpura (*L'Echo méd. du Nord*, 1911, xv, p. 1).—**Deléarde** and **Monnier** relate two cases of rheumatic purpura followed by nephritis, with blood-corpuseles, blood-casts, and albumin in the urine, accompanied by considerable anæmia. Both cases went on to chronic nephritis. Three forms of post-purpuric nephritis have been described by Oddo and Helner: A temporary form, rapidly disappearing; a second, subacute form, with a large white kidney, generally terminating in death, but sometimes disappearing; a third form with hæmaturia and epithelial casts, leading to chronic nephritis. The treatment is the same as that of other nephrites.

J. PORTER PARKINSON.

Physiological albuminuria (*The Canada Lancet*, 1911, XLIV, p. 669).—**G. Chambers** in the course of an article speaks of it as occurring in children and young adults. He says that the vertical posture is an important, if not an essential feature, the excretion disappearing on lying down. The amount of albumen reaches its maximum in the early afternoon and tends to disappear in the evening. The quantity of urine is, as a rule, less during the day than at night, but the sediment varies in the opposite direction. The proteids present are nucleo-albumin, which may be present alone. In other cases serum-albumin and serum-globulin are present in addition. According to the author the presence of a few hyaline casts does not necessarily mean that the albuminuria is due to organic disease. Crystals of calcium oxalate are almost invariably present, and some suggest that it has some relation to the albumin. He sums up the diagnosis as follows: Age is usually under twenty-five. The albuminuria is only present in the vertical posture and may intermit for weeks or months. Nucleo-albumin may be present alone, and casts are usually absent, though their presence does not exclude orthostatic albuminuria. There are no cardio-vascular changes, but lordosis is sometimes present, and its correction by a splint may cause the albuminuria to disappear.

J. PORTER PARKINSON.

Coli-uria (*Practitioner*, 1910, II, p. 347).—**H. Moreland McCrea** points out that year by year this affection commands more attention. The disease is most common in the first eighteen months of life and proportionately more severe at this period. Females suffer more frequently than males, and pregnancy predisposes towards coli-uria. There is always a history of constipation. Infection may take place through three channels. There may be an ascending infection in which infection from without occurs through the meatus; the infection may be transparietal by direct extension from neighbouring organs; infection may be by the blood-stream—descending infection. The cases are classified as follows: (1) There may be simple bacilluria; (2) this may give rise to a cystitis; (3) it may be further advanced, and we find as well a pyelitis; (4) and lastly, the kidney itself may be infected—pyelonephritis. The symptoms depend largely on the variety of the disease met with. In simple bacilluria there are no severe general symptoms. The urine is quite characteristic. It is usually lighter in colour

than one would expect from the specific gravity, which varies from 1010 to 1020. It may be clear on passing, but on standing shows a cloudiness as if one "had blown smoke into it." This smoky appearance is quite characteristic. The urine is markedly acid, and resists alkaline treatment. In babies it stains the napkins a brownish-yellow colour. It may contain traces of albumin. On centrifugalising this urine and staining with methylene-blue the bacilli are easily demonstrated. In more severe cases, where, for instance there is cystitis, pyelitis, etc., marked general symptoms are usually evident. The urine generally contains a considerable quantity of pus, while blood-cells, casts, either hyaline or granular, and caudal cells may be found. There are two lines of treatment—drug therapy and vaccine therapy, which may be used singly or in combination. In prescribing drugs the main objects in view are to render the urine alkaline and at the same time to encourage a copious flow from the kidney. Potassium citrate or potassium acetate are the two best drugs to render the urine alkaline. Children may be given five grains of each four-hourly, and this may be increased by twenty grains a day until the urine becomes and remains alkaline. The drawback to large doses is that diarrhœa may be caused, which tends towards a greater concentration of the urine. The addition of urotropin (one grain in a child one year old) to the alkaline mixture is most useful. If cases do not respond to drug treatment, vaccine treatment may be tried. The vaccines must be autogenous. Three millions is a suitable initial dose for a child one year old and twenty-five millions for an adult. The dose may be repeated in two days' time, and then the interval gradually extended according to the progress of the patient. Histories of four cases (of which three are children) are given.

J. ALLAN.

Colon bacilluria in a twelve-year-old girl (*New York Med. Journ.*, 1911, i, p. 465).—J. Pedersen records a case. Four years ago attacks of dull pain in the right loin were associated with gastro-intestinal disturbance. On June 30, 1909, pain over the right kidney, and urethro-vesical pain at the end of micturition began, associated on one occasion with slight hæmaturia. The urine contained much albumin and many pus cells. Five days later, after a long journey, there was an accession of pain, and the urine was thick, "mahogany-coloured," but cleared up in a few days. The attacks recurred, and were accompanied by fever, nausea and vomiting, and increased in frequency. When examined on October 19, 1909, she was obviously ill. Palpation of the abdomen revealed nothing. Both ureters were catheterised for thirty minutes. The left kidney yielded 12 c.c. of amber-coloured, offensive urine containing a trace of albumin and a small amount of blood; the right yielded 15 c.c. of very pale and offensive urine. Albumin was present, and the sediment contained many pus-cells and a few blood-cells and casts. Both kidneys were delivering numerous *B. coli*. Following careful increase in diet, attention to the bowels, and the administration of formalin urinary antiseptics, she had had no return of her symptoms.

FREDERICK LANGMEAD.

Acute nephritis after impetiginous eruptions (*Monatsschr. f. Kinderheilk.*, 1911, x, p. 139).—L. Kaumheimer.—Impetiginous eruptions play an important part in the ætiology of acute nephritis in children. Among 223 cases presenting these eruptions, nephritis occurred in twenty-one. Infants are almost completely immune, and adults are probably much

more rarely affected than children. Probably the nephritis is mainly caused by bacterial toxins due to secondary pyoderma. The prognosis is favourable in the great majority of cases.

J. D. ROLLESTON.

Pneumococcal nephritis in children (*Thèses de Paris*, 1910-11, No. 394).—**V. Schmarine**.—The thesis contains the histories of twenty-eight cases, one of which is original. The writer distinguishes three varieties of pneumococcal nephritis: (1) Albuminuria in the course of pneumonia, which is a mere episode in an infectious disease without any special gravity. (2) A severe form characterised by the usual symptoms of acute nephritis. In the great majority of cases the pulmonary lesion is a broncho-pneumonia. This is the most frequent variety, since twenty-two of the twenty-eight cases were fatal. (3) A mild form affecting older children and associated with lobar pneumonia. Anatomically pneumococcal nephritis is characterised by lesions of the renal parenchyma, the convoluted tubules being principally affected. The presence of the pneumococcus in the kidney is easily demonstrated.

J. D. ROLLESTON.

Paroxysmal hæmoglobinuria (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 131).—**Max Brückner** had the opportunity of examining the blood of a boy suffering from the above disease, and of submitting it to various experiments with the object of finding out the changes in the blood brought on by cold. He finds that the blood of a patient suffering from hæmoglobinuria undergoes hæmolysis if it is first cooled and then warmed, but not if it is only warmed or cooled, or if the serum or blood-corpuscles are separately cooled and then after warming mixed together. He believes the serum of the hæmoglobinuric patient contains a substance which acts on the blood-corpuscles in the presence of cold. If the serum is heated to 55° this influence on the red blood-corpuscles is absent, but can be produced if the serum of a healthy person is added. Since the serum of a healthy person has alone no influence on the blood-corpuscles of the hæmoglobinuric patient, he believes that two substances participate in the condition of hæmoglobinuria, one which only unites itself with the blood-corpuscles in the presence of cold, and another which is found in every serum but is destroyed by heat. The union of the former substance with the blood-corpuscles in the presence of cold can be again disconnected by heat. The blood of hæmoglobinuric patients does not at all times undergo hæmolysis.

F. R. B. ATKINSON.

Lumbar puncture, morphia and atropine in acute uræmia (*Zentralbl. f. Kinderheilk.*, 1911, XVI, p. 169).—**Hermann B. Sheffield** reports a case in a girl, aged 9 years, of uræmic convulsions two weeks after apparent cure of scarlet fever. He performed lumbar puncture, withdrawing 80 c.c. of cerebro-spinal fluid, and injected 0.004 morphia and 0.0001 atropine. He finds that subcutaneous injection of morphia increases the value of lumbar puncture. Ten minutes after the operation the girl obtained eight hours' quiet sleep and awoke free from amaurosis and headache, from which she had previously suffered. The convulsions ceased and the child made a complete recovery.

F. R. B. ATKINSON.

Some acute bronchial affections in young children (*Clin. Journ.*, 1911, XXXVIII, p. 12).—**T. D. Lister** describes the causes of these affections, drawing attention to bronchitis in children being caused in some cases by wrong feeding and coddling, and records an interesting case of pneumococcal

pneumonia successfully treated by a ten-million injection of the commercial pneumococcal vaccine. The author finds the steam-kettle of value when the sounds are dry and wheezing, but discards it if the sounds are moist.

F. R. B. ATKINSON.

Chronic membranous bronchitis (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 225).—**Schneider** showed a boy, aged 6 years, who for four years had had an enlarged liver, emphysema, and asthmatic attacks. For eleven months he had been expectorating branching casts. On admission to hospital the child had paroxysmal cough and severe dyspnoea. There were extensive bronchitis of both lungs and infiltration of the right lower lobe. Temperature normal. During his stay in hospital he expectorated numerous bronchial casts, one 13 cm. long. Improvement followed lime-water inhalations and potassium iodide, and in a month no more casts were brought up. Examination of the casts showed no diphtheria bacilli or other organisms. The sputum contained various bacteria, asthma crystals, and Curschmann's spirals. The blood showed 12.5 per cent. eosinophilia. The chronic form of pseudo-membranous bronchitis is very rare in children. Barely twenty cases have been published. The aetiology is unknown, the prognosis unfavourable, and the treatment symptomatic.

J. D. ROLLESTON.

Empyema in children (*Zentralbl. f. Kinderheilk.*, 1910, xv, p. 504).—**Oerom** read a paper based on thirty-seven cases at the Danish Pædiatric Society. Suggestive of empyema were (1) signs of exudation in a child under six years. (2) Increased pulse frequency in spite of a crisis or a normal temperature. (3) Increased excretion of indican without intestinal disturbance or tuberculosis. (4) The general condition (sweating, emaciation, pallor, shortness of breath and short cough). A normal temperature, negative puncture, or serous fluid did not exclude empyema. The prognosis depended upon the age, aetiology, and complications. Eight of nine patients under two years died; the youngest was eight weeks old. Of twenty-eight patients over two years five died, three of whom were moribund on admission. Six were tuberculous: all died. Pneumococci were found in most of the rest. In two cases there was spontaneous absorption. In six aspiration alone was performed at first, but all required operation later. Apart from the tuberculous cases pleurotomy was performed in thirteen cases, with three deaths, and resection in thirteen cases, with two deaths. Only one of the fatal cases was more than two years old.

J. D. ROLLESTON.

Lobar pneumonia of *Micrococcus catarrhalis* and *Bacillus coli* origin (*Med. Record*, 1911, I, p. 180).—**F. S. Meara** and **Walter L. Miles** recorded these cases. The first, a boy, aged 14 years, was admitted to the hospital with joint pains and sore throat. The next day the temperature rose to 105° F. and signs of consolidation of the left lung developed. On the ninth day the right upper lobe became solid, and on the twelfth the right middle and lower lobes. Later the left lung, which had resolved, became solid again. Leucocyte count, 48,000. The blood-culture was negative. The sputum yielded a growth of pure *Micrococcus catarrhalis*. Eventually the boy recovered, with well-marked pleural thickening at the base of the left lung. The second case was that of a man, aged 35 years. He complained of cough and prostration. The temperature was 102.8° F. and pulse-rate 80, and remained slow during his whole illness. Respirations were from 24 to 28. Three days after admission he developed consolidation of the

right lowest lobe. Nine days later Klebs-Loeffler bacilli were found in the throat. He then developed erysipelas. The leucocyte count was from 21,000 to 23,000. After three weeks in a convalescent home he returned, with a few moist râles in the chest. Œdema due to nephritis resulted. He slowly recovered except for the nephritis. The pneumonia was due to *Bacillus coli communis*.

FREDERICK LANGMEAD.

Lobar hepatisation in infancy (*Arch. de Méd. des Enf.*, 1911, xiv, p. 401).—A. D'Espine and Mallet consider that apical pneumonia is often undetected in infancy. The authors narrate three cases of extensive lobar pneumonia coincident with broncho-pneumonia due to the pneumococcus, all of which died. The combination shows itself as that of a pure pneumonia and not a broncho-pneumonia, with sudden onset and continued fever. The prognosis is grave in the first two years of life. The authors consider that the gravity of the disease may be due to complications resulting from pneumococcal infection (meningitis, etc.), to a mixture of fibrinous pneumonia and broncho-pneumonia, or to renal or intestinal complications.

F. R. B. ATKINSON.

The diagnosis of enlarged mediastinal glands (*The Canad. Pract. and Rev.*, 1911, xxxvi, p. 301).—H. C. Parsons asks whether the signs and symptoms justify a diagnosis of this condition during life. He divides the intra-thoracic glands into five groups: the tracheo-bronchial, the bronchial, the pulmonary nodes at the hilus of the lung, the anterior mediastinal, and the posterior mediastinal. The children with enlargement of these glands are usually pale, ill-nourished and ailing, with frequent coughs, and irregular rise of temperature from time to time, and often show nothing on examination to account for the condition. In some cases the cough is brassy, like that of aneurysm, or paroxysmal like that of whooping-cough. There may be inspiratory stridor, and occasionally impairment of the percussion-note in the first and second right intercostal spaces close to the sternum, enlargement of the superficial veins, a venous hum in the first right space or behind the sternum, deficient entry of air into one lung, or lobe of a lung, increased resistance over the manubrium, or palpation of the edge of a mass in the episternal notch. These signs are suggestive, but hardly conclusive. X-ray examination promises to be the deciding factor. A band of shadow may be cast to the right of the sternum, or a rounded shadow opposite the root of the lung on one or both sides.

J. PORTER PARKINSON.

Hydatid cyst of the lung in a girl, aged 9 years (*Gaz. hebdom. des Sci. Méd. de Bordeaux*, 1911, xxxii, p. 1).—R. Cruchet reports a case in a girl, aged 9 years, who came to the hospital in June, 1909, for cough, night-sweats, and wasting. At the base of the right lung there was loss of vocal fremitus, dulness, and muffled breath-sounds, but no râles. There was no fever. Exploratory puncture was negative. During the following winter she had a cough and occasional diarrhoea, with black bodies resembling decomposed blood appearing now and then in the stools. In June, 1910, she coughed up a considerable quantity of blood on two occasions: this was followed by whooping-cough, during which she brought up pus and blood. In September she vomited membranous débris. At this time the signs previously mentioned were found at the base of the left lung, limited above by a curved line whose convexity was upwards at the level of the xiphisternum. There was in addition whispering pectoriloquy. The radioscope showed a

shadow corresponding to the dull area. A morsel of the vomited membrane showed the hydatid structure. The condition gradually improved after the vomiting on September 27 of a large piece of membrane, and the signs gradually disappeared in the chest. Previous to the discovery of the vomited membrane, empyema, bronchiectasis, and cavities due to tubercle and hereditary syphilis were discussed.

J. PORTER PARKINSON.

Pulmonary hydatids in children (*Austral. Med. Journ.*, 1911, xvi, p. 127).—**R. M. Downes** has treated at the Melbourne Children's Hospital forty cases of hydatid disease during the years 1904 to 1910, twenty-five in the liver, six in the lung, two of the abdominal wall, and one each in the cerebrum, pelvis, femur, and rib, three in both liver and lung together. Of the lung cases five were operated on, one coughed up cysts, one was diagnosed post mortem, two were diagnosed by the X rays. All were discharged relieved of the hydatid disease.

F. R. B. ATKINSON.

Electrargol in the broncho-pneumonia of children (*Le Progrès Méd.*, 1911, No. 14, p. v).—**H. Perrier**, in his *Thèse de Lausanne*, reports 47 cases, lobar pneumonia being carefully excluded, treated by electrargol, of which 11, or 23·4 per cent., died, comparing favourably with the usual mortality of 60 or 90 per cent. The fatal cases, moreover, all suffered from serious complications, such as abscess, purulent pleurisy, affections of the thyroid peritonitis, and congenital syphilis. Even in cases secondary to measles and whooping-cough the mortality was low. With this treatment the short duration of the disease is striking; after a period of six or seven days, or even less, the temperature falls, and definite cure results without any relapse and more like cases of lobar pneumonia. The treatment produced no untoward symptoms, and seemed to prevent the loss of body-weight so noticeable in this disease. The action of electrargol on the temperature is very different from that of antipyrine and other similar drugs; it is constant, and corresponds to the improvement in the patient's general condition; it acts as a microbicide and stimulates the resistance of the organism. **M. Perrier** has treated children as young as 2½ months. He begins by a dose of 5 c.c. even in children only a few months old. As long as the fever lasts the injection is repeated daily, and at intervals of two or three days after the fall of temperature. In grave cases he uses 10 c.c.; in adults 30–40 c.c. may be used.

VINCENT DICKINSON.

Serum treatment of pneumonia in infants and young children (*Med. Record.*, 1911, I, p. 712).—**G. Mathers Sill** believes that a polyvalent serum or vaccine should be used in this disease early and in good-sized doses, 10 c.c. subcutaneously at varying intervals according to the requirements of the case. The best results are obtained from the serum of a horse immunised against the pneumococcus and other germs commonly present in these cases.

F. R. B. ATKINSON.

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THE BLOOD-PRESSURE IN DIPHTHERIA.

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Historical note.—Friedemann (1893), working with von Basch's sphygmomanometer, examined 63 children suffering from diphtheria in Heubner's clinique at Leipzig. He found that small oscillations occurred in all cases, but that there were no grounds for anxiety, as long as they were within 5–10 mm. Hg. Provided that the blood-pressure did not sink below 90 mm. in big children, and below 75 mm. in small ones, the prognosis was not unfavourable. Cases showing a reading of 65 or 60 mm. were almost invariably fatal. Friedemann was of opinion that the diagnosis of cardiac involvement and the establishment of convalescence could be made much earlier by the sphygmomanometer than by ordinary clinical methods.

Biernacki (1899) investigated 26 cases, 6 of which were fatal, with the pocket form of Hill and Barnard's instrument, and found that in fatal cases the incidence and intensity of toxic symptoms bore a definite relation to the fall of blood-pressure.

Durand-Viel (1903) used Potain's instrument on 55 diphtheria patients, whose ages ranged from $3\frac{1}{2}$ to 14 years, and found that a fall of pressure took place in every form of diphtheria, mild or severe. The fall was relatively more marked in older children and in severe forms of the disease.

Denis (1903), from observations on 400 children in Marfan's diphtheria wards, arrived at similar conclusions.

Taddei (1904) used Riva-Rocci's original instrument on 164 children, including 14 laryngeal cases before and after intubation. He found that the hypotensive action of diphtheria toxin was not always present in every form of the disease. In mild cases the blood-pressure was almost normal, in moderate cases the depression was slight, and of brief duration, while in toxic forms the hypotension was very marked, though it might be preceded by a slight rise during the febrile stage. The arterial tension bore an inverse relation to albuminuria; the more persistent and massive the albuminuria, the longer and more marked the hypotension. In laryngeal cases the pressure rose until intubation, was at its maximum during the operation, and then gradually fell.

Weigert (1907) examined 46 cases with Gärtner's tonometer. In the mild and uncomplicated cases the pressure on the whole was not affected; in some there was a slight rise during the febrile period. Similar results were obtained in cases with more or less severe myocarditis, in which on the average the pressure did not sink lower than in the mild cases. In 4 fatal cases very low readings were registered (50 mm. in a child aged 11 years, 45 mm. in one aged 9 years, and 40 mm. in one aged 2 years.) Although the patients who recovered did not have such a low blood-pressure as the fatal cases, Weigert did not think that much prognostic value should be attached to sphygmomanometry in diphtheria.

Brückner (1909) examined about 200 cases of diphtheria in the Dresden Children's Hospital with Gärtner's tonometer. At the beginning of the disease he found either a rise with subsequent fall or a subnormal reading from the first. Subsequently the blood-pressure behaved in various ways. Horizontal readings were found in uncomplicated cases, and in those with slight cardiac disturbance. In fatal cases the blood-pressure showed a steadily downward course. Like Weigert, Brückner concluded that the estimation of the blood-pressure in diphtheria is of less value than examination of the heart, liver, and urine, and attention to the patient's colour and general condition.

The present paper is based on observations made on 179 cases of diphtheria admitted to the Grove Hospital in the course of the last eighteen months (July, 1909, to December, 1910). The blood-pressure in each case was taken with C. J. Martin's modification of Riva-Rocci's sphygmomanometer. The systolic pressure, as measured by disappearance of the radial pulse, was alone taken into consideration.

As far as possible the measurements were taken at the same time each day between 10.30 a.m. and noon, *i. e.* from 1½ to 5 hours after food; in many cases an evening record between 6.30 p.m. and 7 p.m. was also made. The blood-pressure was taken daily in each case until the patient was allowed to sit up, *i. e.* for a period ranging from three weeks in the mild cases to six or eight weeks in the severe. Comparative observations were subsequently made on the different readings in the recumbent and erect positions. Apart from the early fatal cases the total period of observation in each case ranged from four to fourteen weeks.

Age and sex.—Table I shows that all the patients, except 15 who were above the age of fifteen years, were children. Ninety were males, 89 were females. There was no appreciable difference in the blood-pressure of any two individuals of different sexes, but of the same age and suffering from attacks of diphtheria of equal severity.

TABLE I.

Years.	Males.	Females.
0-1	1 .	0
1-2	2 .	3
2-3	9 .	4
3-4	8 .	3
4-5	9 .	14
5-6	17 .	21
6-7	5 .	9
7-8	9 .	12
8-9	3 .	4
9-10	6 .	4
10-11	5 .	0
11-12	2 .	3
12-13	3 .	2
13-14	2 .	0
14-15	3 .	1
15-47	6 .	9
	—	—
	90	89

Normal blood-pressure.—As the blood-pressure of the patients prior to their attack of diphtheria was not known, it is necessary to compare the readings taken with those made by other observers on normal children.

Table II shows the figures obtained by Seiler from observations on normal children with Riva-Rocci's instrument.

TABLE II.

Years.	Maximum pressure. mm. Hg.
2-3	75-80
4-5	79-90
6-7	85-95
8-9	90-95
10-11	93-96
12-13	94-106
14-15	93-104
15-16	103-120

The figures of Cook and Briggs obtained with their own modification of Riva-Rocci's instrument are somewhat higher. According to them the blood-pressure of children up to two years was from 75-90 mm., for children after two years 90-110 mm., and for young adults 130 mm. In women the blood-pressure was 10-15 mm. lower than in men.

Blood-pressure in diphtheria.—Of the 179 cases, 63, or 35.1 per cent., according to Cook and Briggs's estimate, and 45 cases, or 25.1 per cent., as judged by Seiler's standard, showed for varying periods a pressure inferior to the normal. Owing to the well-known depressive effects of diphtheria toxins these figures may appear surprisingly low, but are to be explained by the inclusion of a large number of mild cases, in whom the blood-pressure was not lowered in the course of their illness. As will be shown below, the varying degrees of depression bore a direct relation to the severity of the attack, being pronounced and persistent in the severe, and slight and transitory in the mild cases.

Of those whose blood-pressure was not lowered, 36 cases, or 20.1 per cent., according to Seiler's standard showed a reading which always exceeded the normal. Judged, however, by the more liberal estimate of Cook and Briggs the pressure of these cases did not persistently rise above the normal limits.

Classification of cases.—The cases have been ranged according to the severity of the faucial attack in the following 4 classes :

TABLE III.

Class I	Very severe	22 cases.
„ II	Severe	59 „
„ III	Moderate	41 „
„ IV	Mild	57 „

Affection of blood-pressure in each class : Class I.—The hypotensive effect of diphtheria was naturally most marked in this class; 18 cases, or 81·1 per cent. according to Cook and Briggs's standard, and 17, or 77·2 per cent. according to Seiler's, showed readings from 5 to 45 mm. below the normal. The fall in pressure occurred rapidly and steeply, and was considerable from day to day, *e. g.* from 110 mm. on the second day to 68 mm. on the third, or there might be a difference of over 10 mm. between the morning and evening readings, or lastly—and this was of still graver prognosis—a marked difference between the readings at the two wrists.

The following readings may be regarded as typical of early fatal cases in this class :

TABLE IV.

Age.	Day of disease on admission.	Blood- pressure on admission.	Subsequent records.
5 years	4th	110	106, 102, 94, 86 morn., 70 morn., 40, 68. 70 even., 50 even. Death on 11th day.
6 „	10th	100	100, 90, 80, 70 R. wrist, 70 R. wrist 60 L. wrist, 50 L. wrist Death on 17th day.
7 „	5th	110	110, 110, 100, 90, 90, 86, 80, 70, 90, 66. Death on 15th day.

In cases which recovered the pressure after the initial fall tended to remain stationary apart from slight oscillations, probably of psychological origin, before returning to the normal level. As will be seen below, a subsequent fall preceding or accompanying the late paralysis, which was naturally most frequent in this class, was very exceptional.

None of the cases in this class showed readings above the normal, except during the first few days of the disease. In every case the pressure was lower than on admission by the time the throat was clean or before death, in 2 by 10 mm.; in 2 by more than 10, but less than 20 mm.; in 2 by 20 mm.; and in 8 by 30 to 60 mm. The difference between the highest and lowest records in any one case was considerable, *e. g.* in 1, 30 mm.; in 7, 40 to 50 mm.; in 1, 60 mm.; and in 1, 70 mm.

Class II.—The fall in pressure, though less marked than in

Class I, was still considerable; 25 cases, or 42·3 per cent., according to Cook and Briggs's standard, and 16 cases, or 27·1 per cent., according to Seiler's, showed readings varying from 3 to 24 mm. below normal during a period of from 1 to 41 days' duration. The lesser degree of hypotension than in Class I is shown by the following figures: In 16 the pressure on the day on which the throat was clean was the same as on admission, in 14 it was 10 mm. or less than on admission, and in 12 the fall exceeded 10 mm. by amounts varying from 14 to 30 mm. The greatest difference between the highest and lowest readings was 40 mm., which was found in 4 cases.

The course of the blood-pressure in the acute stage is illustrated in the following table:

TABLE V.

Age.	Day of disease on admission.	Blood-pressure on admission.	Subsequent readings in acute stage.
5 years	. 6th	. 130	. 120, 120, 106.
5 "	. 7th	. 100	. 90, 90, 84, 80.
8 "	. 8th	. 110	. 100, 100, 100, 90.
9 "	. 8th	. 100	. 90, 80, 70.
Death on 10th day.			
15 "	. 4th	. 122	. 116, 120, 110, 116, 110, 104.

Class III.—The fall in pressure was still less marked than in Class II; 11 cases, or 26·8 per cent., according to Cook and Briggs's standard, and 6 cases, or 14·6 per cent., according to Seiler's, showed a subnormal reading of from 1 to 14 mm. for a period varying from 2 to 37 days.

The greatest difference between the highest and lowest readings was 38 mm., which was registered in 1 case. In only 4 faucial cases was there a difference of more than 20 mm. between the two extremes. Among the purely faucial cases the pressure on the day on which the throat was clean was the same as on admission in 8, in 2 it was higher, and in 19 it was lower by from 10 to 20 mm.

TABLE VI.—Shows Typical Readings in the Acute Stage.

Age.	Day of disease on admission.	Blood-pressure on admission.	Subsequent readings in acute stage.
4 years	. 4th	. 110	. 102, 100, 92.
6 "	. 3rd	. 110	. 112, 104, 102, 100.
7 "	. 2nd	. 120	. 110, 124, 120, 110.

Class IV.—The blood-pressure was least affected in this class; in only 2 cases, or 5·2 per cent., according to Seiler's standard, and 8 cases, or 15·7 per cent., according to Cook and Briggs, was a subnormal reading registered. According to Seiler's standard the fall never exceeded 5 mm., nor lasted more than two days, according to Cook and Briggs's standard the fall did not exceed 10 mm., and was present from 3 days to a month. In 17 cases, or 29·8 per cent., according to Seiler's scale, the pressure was always above normal; while according to Cook and Briggs, though occasionally, it was never persistently so.

In 16 of the purely faucial cases the pressure on the day on which the throat was clean was the same as or less than 10 mm. than on admission, and in 5 there was a rise of 10 mm. or less. In only 5 did the difference between the highest and lowest reading in any case reach 30 mm.; in 19 it ranged from 20 to 30 mm., and in 9 from 10 to 20 mm.

TABLE VII.—*Shows Typical Readings in the Acute Stage.*

Age.	Day of disease on admission.	Blood-pressure on admission.	Subsequent readings in acute stage.
2 years .	6th .	96 .	96, 100, 102
5 „ .	2nd .	100 .	102, 100, 90, 110
6 „ .	3rd .	100 .	100, 100, 100, 100
7 „ .	2nd .	104 .	110, 110, 110, 110
8 „ .	2nd .	108 .	110, 110, 106, 106

Date of highest and lowest blood-pressure.—The following tables show the date at which the maximum and minimum blood-pressures in each class were registered. In the overwhelming majority the highest reading was obtained in the first week, and the lowest in the second week.

TABLE VIII.—*Showing the Number of Cases in Each Week in which Highest Readings were Recorded.*

	1st week.	2nd week.	3rd week.	4th week.	5th week.	6th week.	7th week.	8th week.
Class I.	17 .	— .	2 .	2 .	1 .	— .	— .	— .
„ II.	40 .	— .	6 .	— .	— .	8 .	4 .	1 .
„ III.	31 .	4 .	0 .	1 .	1 .	4 .	— .	— .
„ IV.	42 .	7 .	1 .	3 .	2 .	2 .	— .	— .
	—	—	—	—	—	—	—	—
	130	11	9	6	4	14	4	1

TABLE IX.—*Showing the Number of Cases in Each Week in which Lowest Readings were Recorded.*

	1st week.	2nd week.	3rd week.	4th week.	5th week.	6th week.	9th week.	10th week.
Class I.	4 .	14 .	3 .	1 .	— .	— .	— .	— .
„ II.	7 .	29 .	13 .	3 .	3 .	2 .	1 .	1 .
„ III.	7 .	21 .	5 .	8 .	— .	— .	— .	— .
„ IV.	15 .	33 .	7 .	2 .	— .	— .	— .	— .
	—	—	—	—	—	—	—	—
	33	97	28	14	3	2	1	1

In 97 of the 130 cases admitted in the first week of disease and in 10 of the 15 cases admitted in the second week, the highest reading was the first taken. The occurrence of the comparatively high pressures in the first week is to be attributed partly to the febrile disturbance of the acute stage before the diphtheria toxins had had time to produce their characteristic effect, and partly to the psychical action caused by the application of an unfamiliar instrument, the latter fact accounting for the highest reading being usually obtained on the first measurement. The preponderance of the lowest readings in the second week accords with the clinical fact that this is the time of predilection for the so-called "cardiac paralysis," which should more accurately be called vaso-motor paralysis, the heart failure being secondary to the vaso-motor affection. All forms of this palsy may exist, and in accordance with the rule in diphtheritic paralysis, only a small minority prove fatal. Apart from one case of diaphragmatic paralysis, all the deaths in the present series were due to this cause, fifteen occurring in Class I, and two in Class II, constituting a mortality of 9·4 per cent. As regards the highest pressures recorded, it may be noted that in two neurotic sisters, aged 9 and 7 years respectively, the readings ranged between 130 and 148 mm. Hg. for a month. Another neurotic child, a boy, aged 10 years, had a pressure of from 126 to 144 mm. from the twenty-second to the forty-ninth day of disease.

The lowest reading in a case which recovered was 60 mm., which was registered on one occasion in a girl, aged 3 years. In only ten other cases which recovered did the pressure fall below 80 mm. in patients above the age of 2 years. Two of these belonged to Class I, five to Class II, and three to Class IV.

The date at which the pressure in forty cases returned to the normal, according to Cook and Briggs's standard, after the initial fall is shown in Table X, from which it is seen that in the great majority the normal tension was regained by the end of the seventh week.

TABLE X.

	2nd week. Cases.	3rd week. Cases.	4th week. Cases.	5th week. Cases.	6th week. Cases.	7th week. Cases.	8th week. Cases.	9th week. Cases.	11th week. Cases.
Class I.	—	2	1	—	—	—	—	—	1
„ II.	2	2	1	4	4	2	—	2	—
„ III.	2	2	1	1	1	4	2	—	—
„ IV.	2	1	1	1	—	1	—	—	—
	—	—	—	—	—	—	—	—	—
	6	7	4	6	5	7	2	2	1

Relation of blood-pressure to pulse-rate.—The blood-pressure being much more stable than the pulse-rate, it is not surprising that there should be no exact relation between them. As a general rule, however, the highest pulse-rate, like the highest blood-pressure, occurred during the first week of disease, and the lowest pulse-rates were found in the second week, when the blood-pressure was usually lowest. The following tables show the exact figures.

TABLE XI.—Showing Weeks of Highest Pulse-rate.

	1st week. Cases.	2nd week. Cases.	3rd week. Cases.	4th week. Cases.	5th week. Cases.	6th week. Cases.	7th week. Cases.
Class I.	17	3	1	1	—	—	—
„ II.	41	9	2	1	2	3	1
„ III.	32	6	1	2	—	—	—
„ IV.	51	3	1	—	1	—	1
	—	—	—	—	—	—	—
	141	21	5	4	3	3	2

TABLE XII.—Showing Week of Lowest Pulse-rate.

	1st week. Cases.	2nd week. Cases.	3rd week. Cases.	4th week. Cases.	5th week. Cases.	6th week. Cases.
Class I.	7	10	3	1	1	—
„ II.	3	38	8	7	2	1
„ III.	4	22	11	3	1	—
„ IV.	7	38	10	1	1	—
	—	—	—	—	—	—
	21	108	32	12	5	1

Comparative readings in the recumbent and erect positions.—Table XIII shows the readings in the recumbent and erect positions in 103 patients in whom these comparative observations were made.

TABLE XIII.

	Cases examined.	Both readings same.	Recumbent higher than erect.	Erect higher than Recumbent.
Class I.	4	2	1	1
„ II.	39	18	12	9
„ III.	29	14	5	10
„ IV.	31	14	14	3
—	—	—	—	—
	103	48	32	23

It is noteworthy that whereas in normal persons the pressure in the erect position is 5 to 10 mm. higher than in the recumbent (Janeway, Cooke and Briggs), in a large percentage of the present series the two readings were either the same, or the reading in the recumbent was higher than in the erect position by from 2 to 20 mm.

Thus, out of 103 in whom the comparison was made, in 48 the two readings were the same, in 32 the readings when recumbent were higher than when erect, and in only 23 was the normal relation found.

This paradoxical result was by no means confined to the severe cases, and was even more frequent in the mild, but this may have been due to the fact that members of Classes I and II were kept in bed for a much longer time than those of Classes III and IV, who were usually allowed to get up in the course of the third or beginning of the fourth week. The prolonged rest in bed which was enforced in the severe cases probably enabled their cardio-vascular system in some cases to make a more complete recovery from the infection than had been realised in the milder cases. As a rule, however, the normal condition was finally re-established before discharge from hospital, though a period might intervene in which the highest reading might be found sometimes in the one and sometimes in the other position.

This reversal of the ordinary relations between the erect and recumbent readings is liable to occur in convalescence from any acute disease. It is interesting to note as illustrating a similar cardio-vascular instability in convalescence from scarlet fever, that among 80 patients under my care, the paradoxical reading was found in 34 cases, or 42·5 per cent. In 18 of these the readings were the same in both positions, and in 16 the recumbent exceeded the vertical records by 4 to 20 mm.

Similar observations were made by Oddo and Achard, who denominated the fall of blood-pressure following slight exertion in

convalescence "the hypotension of effort." Those observers found that this phenomenon is accompanied by other signs of cardiovascular depression, such as weakness of the first sound, tachycardia, arrhythmia, hypostatic vaso-dilatation of the lower limbs in the erect position, and dermatographia. The practical significance of these observations is to indicate that resumption of muscular work should be gradual in patients presenting the phenomenon of effort hypotension, and should be accompanied, if necessary, by the administration of cardiac and vascular tonics.

Blood-pressure in laryngeal cases.—Forty-two cases, or 23·4 per cent., showed various degrees of laryngeal involvement. In 13 *severe* cases tracheotomy was performed; in 11 *moderate* cases the symptoms, though fairly well marked, did not require surgical interference; in 18 *mild* cases the laryngeal symptoms consisted merely of a croupy cough and husky voice, thus representing the first degree of croup of earlier writers.

Severe cases.—The effect of laryngeal obstruction on the blood-pressure was most marked in this class. Increase in dyspnoea was followed by a rise of pressure, and the relief of the obstruction on opening the trachea was immediately followed by a considerable fall.

The disproportionately high pressure in relation to the age and the rapid fall on relief of obstruction are illustrated in the following table:

TABLE XIV.

		Age.	Blood-pressure immediately before tracheotomy.	Blood-pressure immediately after tracheotomy.
Case 1	.	2 years	120 mm.	82 mm.
" 2	.	2 "	110 "	80 "
" 3	.	3 "	110 "	80 "
" 4	.	3 "	134 "	94 "
" 5	.	4 "	130 "	102 "
" 6	.	4 "	140 "	120 "
" 7	.	5 "	120 "	108 "
" 8	.	5 "	120 "	90 "
" 9	.	5 "	140 "	100 "
" 10	.	5 "	140 "	120 "

Moderate laryngeal cases.—The rise of blood-pressure in this class was less than in the severe, but the disproportion between the ages and the tension, especially when judged by Seiler's standard, was still obvious, as is shown by the following figures:

TABLE XV.

Age.	Blood-pressure on admission.	Subsequent readings.
11 months	118	80.
2 years	110	100, 90.
3 "	120	100, 94, 80.
4 "	130	124, 110, 104, 100.
5 "	124	114, 108, 104, 100.
5 "	140	140, 120, 110, 100.

Mild laryngeal cases.—The blood-pressure in this class during the acute stage was not any higher than in the purely faucial cases, in fact, it may be said to have been dominated by the character of the concomitant faucial attack.

TABLE XVI.

Age.	Blood-pressure on admission.	Subsequent readings.
2 years	100	90.
4 "	96	96, 86.
5 "	110	90,
5 "	112	110, 106.
5 "	100	90, 110, 100.

Relation of blood-pressure to serum phenomena.—In the great majority of early serum rashes, erythematous or urticarial, no change occurred in the pressure, while in a large percentage of late eruptions, which are usually associated with febrile disturbance and often with pains in the joints, muscles and fasciæ, the pressure was raised. Thus of 77 cases at the time of the early eruption, 62 patients, or 80·5 per cent., showed no change in the pressure, in 9 it was raised, and in 6 it was lowered. On the other hand, out of 50 with late rashes, in 20 cases, or 40 per cent., the pressure was raised, in 28, or 56 per cent., there was no change, and in only 2 cases, or 4 per cent., it was lowered.

The rarity of any rise in pressure at the time of the early rash is in keeping with the fact that during the second week of disease, in which most of these rashes occur, the pressure is usually at its lowest. In the third week, in the course of which the late serum phenomena occur, the pressure as a rule is no longer falling, while on the other hand the fever and joint pains tend to raise it.

Blood-pressure in relation to albuminuria.—As arterial hypotension and albuminuria are both phenomena of diphtheritic intoxication, any change in the blood-pressure co-existent with the occurrence of

albuminuria was almost invariably in a downward direction. Thus among 51 cases in whom albuminuria was not present on admission, its onset was accompanied by a fall in the pressure in 26, and in 25 there was no change; in another 8 cases increase of pre-existent albuminuria was accompanied by a fall in the pressure. The solitary exception to the rule occurred in a girl, aged six years, in whom severe faucial diphtheria was complicated on the twenty-ninth day by uræmic convulsions, one of the rarest events in diphtheria. On the two following days the blood-pressure, which up till then had not been examined, stood at the disproportionately high figure of 120 mm., falling on the thirty-second day to 80 mm. Death took place on the thirty-third day.

Albuminuria in diphtheria thus offers a striking contrast to scarlatinal albuminuria, during which it is usual for the blood-pressure to be raised. Thus in eleven such cases I found a rise in all but two.

Relation of blood-pressure to diphtheritic paralysis.—The question as to whether the pressure is affected by the occurrence of diphtheritic paralysis is best answered by discussing separately the early and late palsies in this connection.

The early palsies are those which occur within the first fourteen days, and include only the so-called "cardiac paralysis" and the precocious form of palatal paralysis. The late palsies are those which occur at any time after the end of the second week, and include ocular, pharyngeal and diaphragmatic palsies, as well as the ordinary form of palatal paralysis. The extent to which the blood-pressure is affected on development of these palsies is shown in Table XVII, from which it is seen that any change in the blood-pressure at the time of early paralysis was invariably in a downward direction, while during late paralysis a fall in the pressure was most exceptional.

TABLE XVII.

	Rise of blood-pressure. Cases.	Fall. Cases.	No change. Cases.
Early palsies	0	17	6 (Palatal palsy only)
Late palsies	18	2	31

There is nothing surprising in the fact that ocular and palatal palsies were not attended with any fall of pressure, but it is remarkable that pharyngeal paralysis, which necessitated exclusive rectal feeding from ten to eighteen days, was only in two cases

attended with a fall of pressure, in one of which it did not exceed 10 mm. In some cases, indeed, the pressure at this period was raised for several days, thus suggesting an irritative condition of the vaso-motor centre in the medulla, in which the other nerves had undergone a varying degree of paralysis. Kolossova's statement that a fall of pressure preceded the occurrence of palatal and ciliary paralysis has not, to my knowledge, been confirmed by any subsequent observer. Allusion should here be made again to the work of Taddei, who drew special attention to the value of sphygmomanometry in the diagnosis of cardiac lesions in diphtheria. He found that when the blood-pressure was low there was an anatomical lesion of the myocardium, and held that in cases where the pressure was normal the cardiac disturbance might be ascribed to lesions of the cardiac nerve supply. It is principally in the acute stage of the disease that myocardial lesions, of which gallop rhythm is the most characteristic sign, are most likely to occur. It is at this period that the pressure tends to be low, whereas at a later stage during generalised paralysis all the signs of cardiac involvement except gallop rhythm may exist with a normal pressure. Taddei's observations, which are confirmed by my own, help to explain the better outlook of late diphtheritic paralysis, even when generalised, as compared with that occurring within the first fourteen days, when the vaso-motor centre primarily and secondarily the myocardium are affected. The behaviour of the blood-pressure in early paralysis has already been illustrated in Tables IV and V. The following short histories show the course of the pressure in late paralysis:

CASE 1.—Boy, aged 5 years, severe faucial diphtheria. Blood-pressure from second to ninth day 90 mm., from tenth to forty-sixth day 80 mm. Onset of pharyngeal palsy on forty-third day, necessitating rectal feeding till sixtieth day. Blood-pressure during this period as follows:

Day of disease	.	43rd	44th	45th	46th	47th	48th	49th	50th	
Blood-pressure	.	80	80 morn. 80 even.	90	90	100	100	100 morn. 100 even.	100	
Day of disease	51st	52nd	53rd	54th	55th	56th	57th	58th	59th	60th
Blood-pressure	100	100 morn. 100 even.	100	100 morn. 90 even.	90 morn. 90 even.	90 morn. 90 even.	90	90 morn. 90 even.	90	90
Subsequent readings until discharge on ninety-eight day, 90 mm.										

CASE 2.—Girl, aged 4½ years, very severe faucial and nasal diphtheria. Blood-pressure from fifth to nineteenth day 80 mm., occasionally sinking to 70 mm., from twentieth to forty-first day 90. Onset of pharyngeal palsy on thirty-eighth day, necessitating

rectal feeding till fifty-fourth day. Blood-pressure during this period :

Day of disease.	38th-41st	42nd	43rd-44th	45th	46th-51st	53rd-54th
Blood-pressure	90	100	90	80 morn. 90 even.	90	80

Subsequent readings ranged between 90 and 80 mm.

CASE 3.—Girl, aged 5 years, severe faucial and mild laryngeal diphtheria. Blood-pressure on admission on seventh day 100 mm., from eighth to thirteenth day 90, from fourteenth to twenty-fourth 80 mm., from twenty-fifth to fortieth 90 mm. Pharyngeal palsy on forty-first, necessitating rectal feeding till fiftieth day. The blood-pressure during this period was invariably 90 mm.; on two occasions the measurements were taken morning and evening. From the fifty-first day till her discharge on the seventy-ninth the pressure remained the same, except on two occasions, when it fell to 80 and rose to 100 mm.

CASE 4.—Girl, aged 2½ years, very severe faucial diphtheria. Blood-pressure on admission on fifth day 90 mm., from seventh to ninth day 80 mm., tenth to eleventh 70 mm., twelfth to sixteenth 70-60 mm., palatal palsy on twelfth day, seventeenth day 50 mm., eighteenth to twenty-fourth 70 mm., twenty-fifth to forty-first 80 mm. Onset of pharyngeal palsy on thirty-sixth day, necessitating rectal feeding until death from diaphragmatic paralysis on forty-eighth day. Blood-pressure during this period from thirty-sixth to forty-first day 80 mm., from forty-third to forty-seventh day 70 mm.

CASE 5.—Boy, aged 7 years, very severe faucial diphtheria. Pharyngeal palsy on thirty-eighth day, necessitating rectal feeding till forty-ninth. Blood-pressure for ten days prior to pharyngeal palsy 110 mm. Blood-pressure during the twelve days' rectal feeding as follows:

Day of disease	39th-40th	41st	42nd	43rd	44th	45th-46th	47th	48th	49th
Blood-pressure	110	100	110	106	98	96	100	94	90

Subsequently the pressure rose on the fifty-seventh day to 100 mm., at which it remained until his discharge on the eighty-seventh day.

Prognostic value of sphygmomanometry in diphtheria.—Has the estimation of the blood-pressure in diphtheria any value as a guide to prognosis? Does it afford any information which is not given by the ordinary methods of examination as to the progress of the case? These questions can best be answered by consideration of the blood-pressure in the fatal cases. Although in the majority of these the pressure took a progressively downward course, in some cases it might at first keep fairly steady, and then fall suddenly,

remaining comparatively high until the day before death, or it might sometimes show a delusive rise after an initial fall, so that from a consideration of the blood-pressure alone it would be impossible to predict a fatal issue.

In none of these cases, however, did death take place unexpectedly, the characteristic features of malignant diphtheria having indicated the probability of a fatal termination before the blood-pressure had shown evidence of depression.

One may therefore conclude that the estimation of the blood-pressure, though of much theoretical interest and of some value in conjunction with other prognostic signs, is by no means indispensable in forming the prognosis of a case of diphtheria.

Adrenalin therapy in diphtheria.—The internal administration of adrenalin in severe diphtheria advocated by me in 1904, and in subsequent communications in 1908 and 1909, has since been adopted with favourable results by other observers. The doctrine of supra-renal insufficiency first introduced by Emile Sergent in 1902 has within the last two years been brought forward again by French clinicians, notably Netter, Hutinel, Moizard and Comby, to account for symptoms which had hitherto been attributed to cardiac failure, bulbar inhibition, or neuritis of the vagus. Netter's pupils, Baudoin and Gautier, have recently recorded in their inaugural theses cases of severe diphtheria, in which the blood-pressure was raised by internal administration of adrenalin.

In the present series 21 members of Class I and 13 of Class II were treated with adrenalin in 10 minim doses of the 1 in 1000 solution every two or four hours according to the severity of the attack. The relatively high pressure shown during the early days of the disease may, in part at least, have been due to the employment of this drug. It is a remarkable fact, however, as Martin and Darré have pointed out, that the ingestion of adrenalin in malignant diphtheria may cause the disappearance of prostration and asthenia without raising the arterial tension.

SUMMARY.

(1) In a series of 179 cases of diphtheria the blood-pressure was found to be subnormal in 63 patients, or 35·1 per cent., the extent and duration of the depression having, as a rule, a direct relation to the severity of the faucial attack.

(2) In the great majority the highest readings were found in the first and the lowest in the second week of disease. The normal tension was usually re-established by the seventh week.

(3) In a large proportion of convalescent cases either the readings in the recumbent and erect positions were the same, or the recumbent was higher than the vertical record until convalescence was firmly established.

(4) In laryngeal cases disproportionately high readings were obtained, especially when the dyspnœa was sufficiently severe to require operation. Relief of the obstruction by tracheotomy was followed by an immediate and steep fall of blood-pressure (20 to 40 mm.).

(5) The blood-pressure showed little tendency to be affected by the early serum phenomena, but during the late febrile syndrome it was raised in 40 per cent.

(6) Albuminuria was accompanied either by a fall or by no change in the blood-pressure, except in a case of uræmia, in which there was hypertension.

(7) In early paralysis the blood-pressure tended to fall. In late paralysis, even when extensive, it was usually not affected.

(8) Sphygmomanometry in diphtheria, as in other acute diseases, though of considerable theoretical interest, has little practical significance.

(9) Adrenalin therapy in diphtheria may favourably influence the other symptoms of supra-renal insufficiency without affecting the blood-pressure.

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DULL AND BACKWARD CHILDREN.*

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INTRODUCTORY.

CHILDREN differ greatly in their mental capacity, and, leaving out of consideration those who are definitely defective, the elementary school population may be divided into three groups. Firstly, there are those of average intelligence, who compose the majority. Secondly, there are those who are particularly bright. Thirdly, there are those who are so dull that the acquirement of school knowledge is extremely difficult, and in consequence they are backward in their work. With the gradual raising of the standard of modern requirements and with the resulting tightening up of the educational curriculum, these backward children are beginning to attract attention. Not only are they a source of considerable worry to the teacher, and to some extent subversive of school discipline, but the results, from an educational point of view, are often far from satisfactory. Although such children may leave school from Standard VI, their actual acquirements are frequently such as would disgrace a child in Standard III. It is not to be wondered at, therefore, that inspectors, teachers, and managers should be beginning to ask whether we are on the right lines in dealing with this class.

Number.—It is first of all desirable to have some idea as to their number.

In Brighton, Dr. Duncan Forbes found that 13·9 per cent. of boys and 11·3 per cent. of girls, or a total of 12·6 per cent. of all the

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children examined, came within this category. In Staffordshire Dr. Reid, the school medical officer for the county, estimates them at about 5 per cent. of the school population. In the county of Surrey, Dr. Jones finds that 6.4 per cent. of boys and 4.5 per cent. of girls, or a total of 5.5 per cent. of the children examined, are dull and backward. In the borough of Guildford, Dr. Pierce finds the total number to be 4 per cent. In Somersetshire I found that the proportion varied from 5 per cent. in some schools to as much as 15 to 20 per cent. in others. It is an interesting fact that in all the districts examined the proportion of backward boys is higher than that of girls.

It is quite clear from these figures that the ratio of dull and backward children is a very varying one, and unfortunately the data available is so fragmentary that no accurate estimation is at present possible. The majority of the reports of school medical officers make no allusion to the subject whatever. The tendency is probably rather to under- than to over-estimate the number, and I think that we shall not be far wrong in saying that about 10 per cent. of the elementary school population of the country come within this category. This would correspond to between 500,000 and 600,000 dull and backward children in England and Wales at the present time.

CAUSES : MENTAL DEVELOPMENT.

The essential characteristic common to these children is their inability to progress in school. Such inability, however, may be due to totally different causes, and in order to make this clear I propose to place before you a few facts regarding development. School progress indicates mental evolution, and this is the result of growth and development of the brain. The weight of the brain at birth is roughly 11 oz. During the first year it increases nearly threefold, to 30 oz., and it continues to grow until middle age is reached, when it attains its maximum weight of about 48 oz. The weight increase during school age is naturally less than at the earlier periods, for mental evolution at this time is more a matter of the development of cells, of the elaboration of their processes, and of the increased complexity of their connections than of gross increase in size. Nevertheless considerable increase does take place, especially in boys. Thus, the average weight of the male brain at seven years is 40 oz., whilst at fourteen years it is 46 oz. The weight of the female brain at seven years is practically the

same as the male, but by the age of fourteen, instead of increasing 6 oz., it has only gained $\frac{1}{2}$ oz. I think we see here the explanation of the greater prevalence of dull and backward boys. In order to reach the average standard a much greater growth is necessary, and this, for various reasons, does not take place.

This growth and development of the brain is the result of two factors—heredity and environment. By virtue of heredity the brain-cells are endowed with an inherent tendency to develop; the surroundings, using this word in its widest sense, may encourage or retard this development. With regard to the former there is not the slightest doubt that the innate developmental capacity of the brain-cells varies greatly in different individuals. In some the potentiality is very great, in others it is comparatively small. This seems to be particularly the case with certain regions of the brain, and in consequence we have striking differences in family aptitudes. There are some families the members of which evince a marked predilection for intellectual pursuits, there are others of which the members are born soldiers or travellers, and there are others with a special bent for mechanical work of some kind or other, and with but little proclivity for book study. These differences are clearly inherited, and the point I wish to insist upon, because I believe far too little importance is attached to it by the educationalist, is that each individual comes into the world with a varying potentiality of development, and with an innate tendency for that development to take place more readily along certain lines than along others.

As we have seen, however, the brain undergoes an enormous growth between birth and the end of the school period, and there is not the slightest doubt that during this time the nature of the environment must exert a very considerable influence. In saying this I do not mean that the environment can supply faculty of which the rudiment is non-existent, or that it can to any great extent modify the course of the inherited tendencies. These things it cannot do, but it can certainly afford or withhold the opportunity for the development of those tendencies. The environment can, in short, encourage or discourage mental evolution.

There are two external factors in particular which have an important influence upon brain development, namely (1) the general state of health of the body and (2) the impressions reaching the brain through the special senses. The brain, like every other organ—indeed, more than any other organ—requires an adequate supply of food, and this it receives through the blood. If, in consequence of improper or insufficient feeding, of defective warmth and impure air,

or of insanitary conditions generally, the health of the body should become impaired, then the nutrition of the brain may be so interfered with as to hinder mental development. The same result may follow in a still more pronounced degree if some definite debilitating disease is present, such, for instance, as tuberculosis, and I have often noticed the mental retardation which occurs after one of the acute illnesses of childhood. But, in addition to food, the stimulation of the brain-cells by sensory impressions is necessary to development, and hence we find that defects of hearing or vision may also play an important part in hindering the evolution of the mind. The same result follows, of course, from the absence of school instruction.

VARIETIES OF DULL AND BACKWARD CHILDREN.

It is seen, therefore, that mental evolution is dependent upon heredity and environment, and in agreement with this we find that backward schoolchildren are divisible into two main groups, namely those of (1) innate dulness, and (2) acquired dulness. The problems presented by these respective groups are so different that it is necessary to consider them separately.

GROUP I: *Innate dulness.*—These children are usually sturdy, well grown, and in good physical health, but they have no capacity for book-learning, and the teacher finds the greatest difficulty in teaching them the most elementary abstract rules. Occasionally they may shine in some one particular subject, but this is exceptional, and in most instances there is the greatest distaste and inability for all kinds of school work. They are the children who, in former years, spent most of their time in a corner of the classroom, decorated with a sugar-loaf cap and a slate, on which was inscribed the word "Dunce." In my experience they are commoner in country villages than in towns, and they are often the descendants of generations of agricultural labourers, who have done excellent work with their hands, but very little with their heads. I have seen instances where children, parents, uncles and aunts all belonged to the same type, and there is no doubt that in very many cases the failing is a family one—it is, in fact, inherited.

At the present time we are hearing a great deal about mental deficiency. Everyone—school doctor, inspector, and teacher—is on the look-out for it, and rightly so. The result is that these children often fall victims to the quest. But they are by no means mentally defective. The term "mental defect," in my opinion, should be

restricted to those persons who are so lacking in general mental capacity, in common sense, that they are incapable of subsisting by their own unaided efforts. No doubt book-learning is a valuable asset under present-day conditions, but it is not essential, and there are very many individuals who, although scholastically dunces, have yet sufficient aptitudes of other kinds, and, in particular, sufficient common sense, not only to take care of their interests, but to achieve a considerable degree of success in a humbler walk of life. We must remember that the human mind is compounded of many faculties, and it would be just as logical to say that you or I were mentally defective because we had no taste for music or the fine arts, or were devoid of religious feeling, as it is to so stigmatise these children because their minds do not run to intellectual pursuits.

As a matter of fact you will find that these children have all their wits about them out of school; not only can they hold their own, but they are often the leaders of the playground. One child of this kind whom I recently saw, a girl, aged 12 years, who was in Standard V, told me that David was the son of Goliath, and that he married Rebecca. She could give me no information about India, except that it was a country somewhere. She could write a passable hand, but her spelling was bad, and her arithmetic execrable. And yet she was by no means a fool in other matters. She could clean out a room, could wash and dress the younger children, and could cook the dinner with very little help. I have little doubt that, unless her father apprentices her to a dress-maker or a typewriting agency, she will make an excellent domestic servant.

It is quite evident that our present methods of dealing with dull children of this type leave very much to be desired. We spend years in the attempt to cram them with knowledge which they cannot assimilate, and we neglect to supply them with the training suited to their capacity. During their school course, or during the latter part of it at all events, they make no progress, but simply mark time, and at the age of fourteen years, after much expenditure of the teacher's time, patience and often temper, and of the rate-payers' money, they enter the world with their natural aptitudes for the most part undeveloped.

What is the remedy? Two things are essential for the proper education of this class. Firstly, a modification of the school curriculum to suit their natural aptitudes, and secondly, more individual instruction. With regard to the former there is no

doubt that some improvement has taken place in recent years, but there is still room for improvement, and I would strongly advocate the giving of more time to practical and manual work. The spending of time in modelling, fretwork, carpentry, leather and metal work, sewing, mending, washing, ironing and cooking, to mention a few subjects, would not only do much to develop manual dexterity, and so enhance the prospects of the youth or girl in after life, but it would develop their neatness, patience and industry, and stimulate their general mental evolution in a way which no mere book-learning or abstract teaching could do. We are too apt to lose sight of the fact that the systematic performance of manual tasks exerts an enormous influence upon general brain development, and this is particularly so in the case of the children we are now considering.

The need for more individual instruction is equally great, and it is obvious that no backward child can hope to receive anything like adequate attention in a class consisting of 100 or even 50 pupils; the weakest must inevitably go to the wall.

The solution of the difficulty lies in the establishment of special classes to suit these children. I am of the opinion that every school should be equipped with a class-room under the charge, not of the junior teacher, but of a specially qualified and experienced instructor. Such a class should not be called a "special" one, because this term is now officially associated with the mentally defective. It is better to call it a "practical" or "auxiliary" class. It would naturally form the sorting-place for those mild cases of feeble-mindedness which present difficulty in diagnosis. I may mention that, during the last year or two, Dr. Duncan Forbes, at Brighton, and Dr. Meredith Richards, at Croydon, have each started classes of this kind, and so far with decidedly encouraging results.

GROUP II: *Acquired dulness*.—We now pass on to consider those children whose backwardness is not the result of innate dulness, but of defective cerebral nutrition caused by an adverse environment. For purposes of description I think it is convenient to divide them into three classes.

Class A consists of those children who are backward through defective function or lack of opportunity. By this I mean that in consequence of irregular school attendance they are not only behind their compeers in scholastic knowledge, but the avenues of this knowledge, owing to disuse, are not so readily permeable. The condition is not so common in these days of the vigilant attendance officer, and it rapidly disappears under regular tuition. I merely mention it because I have known such children classed as defective.

Class B is very similar, except that here the backwardness arises from some partial blocking of the sensory avenues, such as defective vision or hearing, and it disappears upon removal of the cause.

Class C is the largest and most important, and consists of those children whose mental development has been hindered by malnutrition or disease. Such children are usually thin, pale and ill-nourished, and present a striking contrast to the sturdy youth who is hereditarily dull. Very often marked anæmia is present, and a certain proportion of them suffer from chronic catarrhs, tubercular glands, or other serious disease. They differ mentally, as well as physically, from the innately dull, because in these children we are now considering the inertia extends beyond the school. They are dull in the playground and the street, and generally lacking in that vitality and spontaneity which is so characteristic of healthy childhood. This condition is commoner in the towns than in the country, and most cases will be found to come from bad homes or the slums. Here, again, there is a very close resemblance to mental defect; indeed, these are the cases of so-called mental defect which become "cured," for the condition is only temporary, and as the bodily health improves so does that of the mind, and the child who has been dull, vacant and inert, astonishes everybody by suddenly waking up.

There is one other variety of dulness, which may be referred to here, which arises in children who have previously been unusually bright and intelligent. It is the result of over-pressure. I do not think that the elementary school curriculum is at all likely to injure normal children. But all children are not normal. Some of the most intelligent have a nervous system which is lacking in durability, and their very brightness only lures to disaster. In addition to ordinary school work, an ambitious father may be providing them with special lessons. The result is a nervous breakdown, a condition of neurasthenia, with mental hebetude and complete inability for work. In most cases, under proper treatment, complete recovery takes place, but not in all, and if disaster is to be averted, the education and daily life of such a child should be prescribed with the greatest care.

It is quite clear that children suffering from acquired dulness require totally different management from those in whom the dulness is inborn. We are here dealing with a disorder of the brain which is secondary to disorder or disease of the body, and until this latter has been remedied, education, even in a "practical"

class, will not only be useless, but may be positively harmful. For education means stimulation of the cortical cells, and they are already stimulated beyond their nutritional capacity. The first essential, therefore, is the treatment of the body by wholesome and adequate food, sleep, pure air, and appropriate medicines. I do not intend to discuss the questions as to by whom and by what means this should be provided; all that I desire to point out is that, until these things have been provided, attempts at education are not merely useless, but harmful.

In most cases, therefore, the child should be excluded from school until he is in a condition to profit therefrom. In some cases where the condition is slight, and it is not desirable that the child should be altogether deprived of the advantages of discipline and method which result from school attendance, I recommend that he should go in the mornings only. But I must confess that this prescription, although valuable for the child, is not favourably received by the teacher with an eye on his attendance percentages.

MEDICAL INSPECTION OF SCHOOL-CHILDREN.

I have now placed before you a short account of the chief types of dull and backward children, together with what I conceive to be the best methods of dealing with them. The point I desire to emphasise is that school-children differ enormously, by reason of their heredity and their surroundings, in their capacity to profit by instruction, and that consequently, instead of vainly attempting to make the child fit the syllabus, we should make the syllabus fit the child. This can only be accomplished by a greater latitude in the application of the curriculum and by much more individual instruction.

If we desire to do the best for each child, the first step is, of course, to endeavour to ascertain the degree of mental capacity and the nature of the hereditary bias. This brings us to the medical inspection of school-children. There cannot be the slightest question that this is a step in the right direction. The recognition of early disease, of conditions of bodily defect, ill-health, and malnutrition—if followed by their proper treatment—will undoubtedly do much to improve the physique of our future citizens. The mere compilation of anthropometrical data, which may be utilised for future reference, may be of incalculable advantage to the nation. But in one respect medical inspection, as at present conducted, is distinctly disappointing. The prime concern of the educationalist

after all is with mind. It is true that we must not neglect the body, and it is gratifying to see that we are now paying more attention to physical instruction; but it is the mind which the teacher is chiefly called upon to develop. This being so, it seems to me matter for great regret that, whilst so much attention is being given to bodily conditions, so little attention is bestowed upon the condition and capacity of the mind. From the point of view of education these conditions of the body derive their chief importance from the effect they have in modifying mental development, and in hardly any of the reports of school medical officers does one find the slightest attempt to correlate these two. As a matter of fact, beyond an often cursory reference to the number of mental defectives, it is the exception to find any reference to the number and condition of the dull and backward children or to the matter of intelligence at all.

I think this is a great defect. Until the school medical officer concerns himself much more with mental conditions than he does at present, and until the physician and the pedagogue work together at this matter hand in hand, we shall never get the best results either from medical inspection or from education.

Increased attention of this kind would probably mean a considerably increased staff, but it would be well repaid by increased national efficiency. For the ideal of a nation, from the point of view of education, must be, not the greatest good of the greatest number, but the greatest development of each individual.

A COMPLEX TUMOUR OF THE FRONTO-NASAL REGION.

By DAVID M. GREIG, C.M., F.R.C.S.ED.

Surgeon, Dundee Royal Infirmary; Lecturer on Clinical Surgery and Surgical Diseases of Children, St. Andrew's University, etc.

THE subject of this unusual neoplasm was a male child, aged 1 year and 5 months. He was the youngest of four children, the eldest, a boy, being alive and well, a healthy though perhaps a somewhat neurotic child. Two years after his birth, the mother, being then six months pregnant, fell downstairs, and to this she ascribes the fact that her second child was dead born at full time. Two years later her third child was born at full time, but only survived two days. The cause of death was jaundice, though whether this was due to any defect in the biliary passages is not apparent from

the mother's description, but it is certainly possible. There is a strong neurotic element on the mother's side, and the mother herself is certainly a very nervous person. It is often in families with such hereditary neuroses that children the subject of congenital defects—mental or physical—are found.

The patient was born at full time, a normal birth, and there was then found to be at the left side of the root of the nose a pendulous globular tumour about the size of a pigeon's egg, showing in some places a curious translucency, and in others a somewhat pink or purple colour as if from subjacent telangiectasis, while the major



part of the skin was normal. About the base of the tumour, which had a diameter of fully half an inch, there was an unusual development of hair. The tumour was not painful when touched. It had a tendency to fall down over the left eye, with the vision of which it interfered. The child was a somewhat delicate and not very well-nourished infant. He appeared apathetic and phlegmatic, as many weakly children do, and the colour of lips and face suggested anæmia. The removal of the tumour was easily carried out, the base being encircled by an oval incision and the skin dissected clear of the pedicle. The attachment itself was unusually vascular, though the bleeding was easily controlled by pressure, and there was no connection between the tumour and the pericranium or the bone.

The wound healed by first intention, and the child made an

excellent recovery, and under careful dieting improved much in brightness and in his general health.

It was anticipated that the tumour would prove on examination to be a teratoma, but this surmise was incorrect, as there was not enough variety of structure in the tumour to warrant such a diagnosis. The nævoid element, which was recognised clinically, was a feature of the growth. Altered voluntary muscle was also found, and at one or two points glandular tissue. The main mass, however, of the tumour was fibrous, and though nerve-elements were specially looked for, they were looked for in vain. The pathological examination was carried out by Professor L. R. Sutherland, and the diagnosis thereafter was "a complex congenital tumour with a nævoid tendency."

The frequency with which angiomas affect the head and face is well known, and it is in accordance with expectation that circumscribed nævi have been reported occupying much the same position as in the above case. Though the colour of parts of the tumour and an amount of telangiectasis of the cutaneous capillaries indicated clinically some nævoid tissue, it could not be reduced in size by pressure, which with the hardness showed that it was not a simple nævus. It is seldom, however, that facial nævi attain such a size, though Kirmisson (1) figures one which is by no means less, but it had not the distinct pedunculation of my tumour, sprang from the region of the cheek, and its vascularity was much more pronounced.

That the condition is a rare one is obvious from the absence of reference to such in literature. The case of a child with a tumour presenting very similar clinical characteristics, but distinctly different in microscopic constituents, is figured and briefly related by Ballantyne (2). The tumour was somewhat larger than in my case, occupied a similar site, but contained bone, fibrous tissue, mucoid tissue, and hyaline cartilage. Ballantyne suggests teratomatous origin, but Mr. Rutherford Morison, who successfully removed the tumour, considered it an example of accessory upper jaw. My case, on account of the fewness of the elements of which the tumour was composed, cannot be considered as applicable to either of the above, but merely a mixed congenital tumour with a predominating nævoid element.

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Seventh Congress of the Italian Paediatric Society.

HELD AT PALERMO, APRIL, 1911. *La Pediatria*, 1911, XIX, p. 299, and
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Sclerema and Sclero-œdema.—Professor C. COMBA reviewed the literature. He admitted no distinction between sclerema and sclero-œdema. The symptomatology consisted in an induration of the skin, more especially localised in the lower limbs and in a lowering of temperature. At autopsies the skin was hard and dry, and pressure on the subcutaneous tissue did not produce any escape of fluid. The adipose tissue was dense, like stearine. Sclero-œdema was sclerema with œdema added, which infiltrated the skin and the indurated subcutaneous tissue and extended to parts not affected by sclerema, *viz.* the scrotum and penis. Monti found the fat of the skin normal histologically, except for traces of a gelatinous substance and micro-organisms similar to Friedländer's bacillus. As to the cases described by Ballantyne, Stillmann, and Savornat, in which there was a marked hyperplasia of the subcutaneous connective tissue, the author thought they belonged to rare congenital forms of diffuse sclerodermia. Perrando, however, almost invariably found congenital malformations and arrested development of the thyroid and thymus. As to the pathology, Parrot's theory that the disease was due to athrepsy was unsatisfactory. Knöpfelmacher investigated the composition of the fat and found diminution of oleic acid and excess of palmitic and stearic acids. The lowering of temperature and greater consumption of the reserve of fat might help in rendering the subcutaneous adipose tissue harder, since the organism would utilise its more fluid fat. Siegert, on the contrary, found the fat rich in oleic acid. As an example of the lowered temperature the author suggested the unstable condition of the thermic centres in infants. He alluded to the work of Perrando and his school, but thought that many of their cases were instances of congenital myxœdema. He concluded that sclerema is not a pathological entity, but rather a clinical syndrome due to disturbance of the function of thermogenesis and thermotaxis in the new-born and suckling.

E. MENSI (Turin) had observed eighty-two cases of sclerema which exhibited two different clinical forms according as the skin was thickened or thinned. The first form was met with in premature infants and those born at term, mostly at the cold season of the year, and was often preceded by œdema; it was localised principally in the calves, thighs, buttocks, shoulders, and cheeks; it very rarely affected the hands and feet. If the infant lived long enough it might extend to the whole of the body. The temperature was usually lowered but might become febrile; broncho-pneumonia and albuminuria were often present and a fatal issue common. Post mortem, besides renal and pulmonary lesions and congestion of the viscera there was atrophy of the skin accompanied by deficiency of the granular layer, thickening of the cells and fibrous tissue of the derma, with vascular dilatation. In the second form there was stiffening and thinning of the cutis; it was seen in premature infants, and during hot seasons, and might also be preceded by cutaneous œdema (34 per cent.); it had the same localisation, but for the most part was associated with changes in the digestive system.

diarrhœa, not infrequently broncho-pneumonia, and almost always renal lesions. The temperature was generally higher than in the first form, and the result was usually fatal. There was atrophy of the epidermis with deficiency of the granular layer, thickening of the fibrous tissue, scarcity of vessels and cells in the derma, abnormal development of connective-tissue bundles round the markedly diminished adipose tissue, which was infiltrated with cells. The first form corresponded to the sclero-œdema or sclerema of œdematous infants as usually described, the second to the adipose sclerema of Parrot. The author did not accept this distinction of terms. In various researches he had endeavoured to ascertain if, in these conditions, there were any causes at work sufficient to disturb the relation which normally existed between the chlorine content and the water content of the organism, and if in sclerema the balance of chlorine underwent any modifications analogous to those observed in ordinary œdema. He found that for the production of sclerema neither the nephritic element was necessary, nor the retention of chlorine in its natural clinical manifestation—subcutaneous œdema. Equally doubtful were the other two factors invoked by authors as determining the cutaneous hardening, viz. the hypothermia and special composition of the fat. Neither was the infective theory of Comba sufficient to explain the development of the sclerema. From his own observations the author inclined to the opinion which recognised that sclerema essentially consisted in a change in the connective tissue of the derma resulting in thickening, hypertrophy, or sclerosis, according to the form, with intermediate stages—a kind of essential sclerosis of the subcutaneous tissue. He thought that a congenital factor was necessary, either as a predisposing local element or as a general constitutional element. From the resemblance between sclerema and myxœdema he was led to seek in the former some change in the thyroid, thymus, or supra-renals. In twenty-four cases he found the weight of the thyroid was above normal in sixteen, below in four, and equal in four; otherwise his researches were inconclusive.

L. RIVA-ROCCI's experience led him to agree rather with the conclusions of Comba than with those of Mensi. He could not admit the latter's views with regard to the hypertrophy of the connective tissue, since it was clinically proved that sclerema could supervene rapidly and as rapidly disappear. He believed that this formation of connective tissue was only apparent, and that the hardening of the skin was due to change in consistency from solidification of fat. With regard to the cause of the peripheral coldness, he thought it unnecessary to invoke the vulnerability of the thermic centres, but it might depend on the lessened sanguineous irrigation of the cutis, which might arise in the course of infections and intoxications. He thought that sclerema should be considered a syndrome produced by different causes, but which resulted in a change in the peripheral circulation with alteration in the state of the fat and cutaneous albuminoids.

SIMONINI had never been able to trace any connection between sclerema and diseases in the parents. During ten years he had had nineteen cases in cold seasons, fifteen in temperate, and seven in warm. He had found lesions in the supra-renal capsules, and thought the pathology of sclerema would be found in glands with internal secretion.

SPOLVERINI related some facts observed by him in kids born from thyroid-ectomised goats. They were of less weight than the controls, presented general atony and hypothermia, but he could not satisfy himself that true sclerema existed.

CONCETTI thought the importance of glands with an internal secretion in

the pathology of sclerema could not be denied. He instanced the relations between hypo-function of the thyroid and deficiency of the thermo-regulatory centres, the proneness to infection and the various cutaneous disorders to which sclerodema was allied. He did not attribute the latter to the thyroid, however, but mentioned this because it was better known. There were many other glands whose function was obscure or unknown.

COMBA did not agree with Mensi's view that sclerema consisted in a change in the connective tissue; such changes would produce scleroderma. He thought that cases due to the thyroid should be classed as congenital myxodema. The connection between sclerema and glands with internal secretion was not proved; he considered sclerema a morbid syndrome characterised by hypothermia and induration of the subcutaneous tissue; such hypothermia might be caused by incomplete function of the thermo-toxic centres easily affected by toxic and infective causes.

The Ratio of Growth in Breast-fed and Bottle-fed Infants.—

C. CATTANEO.—In six children, three of them breast fed, the weight was taken, the quantity of milk measured, and its quality analysed, every week. The ratio of growth per kilo and per diem was a variable quantity, which graphically was expressed in an interrupted curve, while the curve of total growth was continuous and regular.

Elimination of Uric Acid by the Milk.—A. FILIA, as the result of his researches on goats, stated that (1) uric acid and purin bases in small quantity passed through the milk: the administration of food rich in nuclein, injections of lecithin, uric acid given by mouth and by injection, slightly increased the elimination of uric acid and purin bases. (2) There was no difference in the quantity of uric acid and purin bases eliminated by the milk in uræmic or healthy women.

The Micro-organism of Bordet and Gengou in Whooping-cough.—

FINIZIO.—In eight nurslings with initial forms of bronchitis, or bronchopneumonia, examination of the sputum gave negative results. On the other hand, in ten infants with pertussis, this organism was isolated eight times in the first weeks. In ten cases the serum of these agglutinated the bacillus five times. Fixation of the complement was obtained six times out of eight.

The Pathology of Icterus Neonatorum.—D. PACCHIONI, from personal researches, concluded that the fundamental cause was the loss of water sustained by the infantile organism in the first days after birth. This loss of water produced a condensation of all the fluids of the body, including the blood (hyperglobulia). If the loss of water was not too great, the infant, although having a certain amount of hyperglobulia, had no jaundice; on the other hand, a more accentuated hyperglobulia caused the formation of bile so thick and viscid that it could not flow freely along the bile-ducts, and was absorbed by the blood and lymphatics.

MENSI said that the theory of condensation of the mass of the blood was not admissible in those cases where jaundice appeared during the first few hours of life, because sufficient loss of water was then excluded. He adhered to the idea of the hepatogenous nature of the complaint.

MODIGLIANI had seen hyperglobulia become less after the ingestion of liquid food.

PACCHIONI, in reply, said that prolonged parturition might contribute

towards condensation of the blood. In the plethoric, jaundice might be wanting owing to early introduction of liquids.

Spasmophilia in Infancy.—N. FEDE described the various forms of spasmophilia, which he attributed to the action of toxic substances attaching themselves to the cellular elements of the nervous system, especially the cerebral, in children already predisposed by neuropathic heredity. The toxic element was for the most part derived from the digestive tube, but might also be of other origin, *e. g.* infective.

LONGO described a case seen at the Clinic in Rome. A child with tetany had, during its stay there, three acute infections—varicella, measles, and broncho-pneumonia; none of these caused any variation in the course of the tetany. No good results followed the use of parangline. At an earlier stage the administration of milk produced an aggravation of the symptoms, but latterly this was no longer observed. This seemed to show an anaphylaxis as regards milk.

BERGHING had on several occasions seen attacks of spasmophilia reappear after administration of milk, and disappear on giving farinaceous food.

PETRONE had had good results from parathyroidine. He found that this substance increased galvanic excitability.

A Case of Ritter's Disease (Dermatitis exfoliativa).—SORGENTE isolated from the blood and skin a micro-organism which was agglutinated by the blood-serum of the patient.

CONCETTI thought that two forms of this disease existed; one, inflammatory from irritative causes, and which might be considered a severe, extensive erythema, with formation of vesicles, and followed by desquamation; the other that described by Ritter, where inflammatory lesions were not found, but rather a cutaneous maldevelopment. In some cases thyroid did good.

Septicæmia in Children.—BAGINSKY (Berlin) reported four cases of severe septicæmia in whom the place of entry was hardly discernible. It mostly took the form of a polyarthritis, which simulated rheumatism, but did not suppurate. In one case the process started from a septic appendicitis simulating arthritis. In one case of typhoid, a streptococcic septicæmia simulated at the autopsy a miliary tuberculosis, which was afterwards found to consist of streptococcic infarcts.

On the Persistence of Scarlatinal Infection.—BAGINSKY had collected thirty-six cases of children who after six to eight weeks' treatment in hospital returned home and gave the disease to other members of the family. They had no residual lesions, *e. g.* pharyngitis or otitis.

On the Pathology of Rickets.—VAGLIO and JOVANE referred to their previous researches on the importance of intestinal toxins in producing rickets. The toxins were not, however, always sufficient to produce it on account of the antitoxic defence of the child, and when that was wanting rickets became manifest. A condition of hypothyroidism favoured such a condition.

Bacterio-hygienotherapy in Intestinal Disorders.—SPOLVERINI, after alluding to the recent researches of Tissier and Metchnikoff, related sixty cases treated by him with various soured milks and by selected cultures of

various acidophile bacteria (lactobacilline, lactopressamine, caseobacilline, fresh cultures, etc.), making observations on the faeces and urine. The results were always rapid and favourable; the best were obtained with natural soured milks and then with dried bacilli, with which the action was slower and less marked.

Wassermann's Reaction in Children.—FRANCIONI and MENABUONI, after practising this reaction in many cases, found it positive in the first few days after birth before objective symptoms were present. It was invariably positive in hereditary lues and continued so for many years, being little affected by treatment. It had, however, a limited value as proof of indirect hereditary influence on the offspring. The authors cautioned against regarding a positive result as an absolute indication for active treatment, since the reaction remained positive after repeated and energetic treatment.

SPOLVERINI asked if the authors had practised the cuti-reaction to tubercle when they had found Wassermann's reaction positive in children under one year without symptoms of syphilis. It had been asserted that in syphilitic adults the cuti-reaction was more marked than in those suffering from tuberculosis.

CACIOPPO had found Wassermann's reaction positive in children with clinical symptoms, but not constant during the period between birth and the appearance of these symptoms—a period of the greatest importance as regards early diagnosis and prophylaxis.

FRANCIONI, in reply, said he had made no special observations as to the relation between Wassermann's test and the cuti-reaction.

On the Sensation of Fluctuation in Large Appendicular Abscesses in Children.—RIVA-ROCCI.—In deep abscesses of appendicular origin the usual objective symptoms were wanting; there was only a sensation of fluctuation as in early ascites and this aided the diagnosis.

Intra-venous Serum Therapy in Diphtheria.—MODIGLIANI, in support of the efficacy of this method, gave statistics of his cases, some of which were veritable resurrections.

BERGHING had not obtained any better results from the intra-venous than from the subcutaneous method; the size of the dose was the only essential.

GAGNONI had obtained good results, but had always used both methods in conjunction.

The Biological Reaction of Extract of Bovine Tuberculous Glands.—VALAGUSSA, to investigate the relationship between glandular tubercle and pulmonary phthisis, practised the auricular reaction with bovine tuberculous glands on sixty-seven children. The experiment was made simultaneously with the cuti-reaction with tuberculin of bovine and human origin. In all the sixty-seven cases he was able to note the parallelism between the two reactions. In one case only, in which the cuti-reaction had been negative, the auricular was positive, and the autopsy disclosed tubercle of the peribronchial glands.

Sudden Death in Children.—COZZOLINO.—The more accurate investigations of recent years on so-called thymic causes of sudden death led to the presumption that the majority were not really such. Functional and physical signs of thymic disturbance existed, but were not pathognomonic—

the diagnosis was usually one of exclusion. The majority of cases of sudden death were attributed to the mechanical influence of the thymus, either hypertrophied or rapidly engorged, although pathological data were wanting. The theory of the status chloro-lymphaticus of Escherich was unsatisfactory, whereas the mechanical theory had received brilliant confirmation from the success of thymic surgery. Partial subcapsular thymectomy might save many children from the risk of sudden death.

LANZA. Most cases of this kind were explicable either clinically or pathologically, and the progress of science would eventually clear up those whose pathology was obscure.

MAGRASSI related two cases. The first child suddenly died two days after the operation of cystotomy. There was an ascaris found in the rima glottidis. The second child died suddenly twenty-two hours after operation for macroglossia; several ascarides were found in the nasal cavity.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Tuberculosis in childhood ('*Brit. Med. Journ.*,' 1910, II, p. 76).—**F. Hamburger**, in a paper read at the Tuberculosis Conference in Edinburgh on the incidence of tuberculosis in children in Vienna, summarises the result of his investigations as follows: (1) The majority of persons become infected by tuberculosis in childhood. (2) The frequency of tuberculous infections increases from year to year, whilst the frequency of manifest tuberculous disease decreases from year to year. (3) Tuberculosis is very commonly latent, producing no symptoms, especially if infection dates from the third or fourth year. (4) The prognosis of tuberculosis in childhood becomes more favourable the older the person is at the time of the first infection. In the subsequent debate the comparative frequency of abdominal tuberculosis among children in Edinburgh and Glasgow was brought out. Cases in which town children had derived tuberculosis while in the country from drinking tainted milk warm from the cow showed that the disease was more dependent on bad milk supply than on bad air.

J. E. BULLOCK.

Head's areas in commencing tuberculosis in childhood ('*Jahrb. f. Kinderheilk.*,' 1911, LXXIV, p. 71).—**C. T. Noeggerath** and **V. Salle** find in pulmonary tuberculosis that hyperalgesia exists in the chest and back in the areas supplied by the second, third and fourth dorsal nerves. Very frequently the hyperalgesia extended to the fourth cervical area, rarely to the fifth dorsal, and only once to the sixth dorsal area; both sides were equally affected, save in one case where painful sensation was more marked on the left side over a broader zone. The authors examined 46 children, in 24 of whom commencing phthisis was suspected; 16 of these showed Head's areas; in 20 out of the remaining 22 no clinical examination revealed signs of any disease, and in these there was no hyperalgesia.

F. R. B. ATKINSON.

The pre-tuberculosis stage (*L'Echo Méd. du Nord*, 1911, xv, p. 221).—**Deléarde**, in a lecture to a congress, speaks of the importance of sending children into the country during the holidays who are in the pre-tubercular stage, undersized, pale, unhealthy-looking, often with enlarged glands. This is especially important when other members of the family are tuberculous and when they live in unhygienic surroundings. It is more important from the point of view of the State to care for such children than to treat children suffering from marked tuberculosis, as they are likely to make more efficient citizens. Mountain or sea air, with plenty of free space and sun, will restore to them physical vigour and arrest the progress of the disease.

J. PORTER PARKINSON.

Splenic anæmia and occult tuberculosis (*Gaz. Hebdomad. des Sci. Méd. de Bordeaux*, 1911, xxxii, p. 303).—**J. Sabrazès** and **E. Dubourg** relate the case of a girl, aged 12 years, who from birth had been called the "wax doll" owing to her pallor. She had frequent bleedings from the nose, but was generally healthy. At the age of 5 years the spleen was noticed to be enlarged, and she was treated with arsenic and phosphorus. Aged 6 years, she had some enlargement of the cervical glands, and a year later scarlet fever, after which the nose bleedings were more severe. There were also repeated attacks of diarrhoea with foetid stools. When 8 years old she had joint pains without swelling, and examination of the blood showed poikilocytosis. Wassermann's reaction was negative. At 12 years she was very anæmic, there were a few enlarged glands in the neck, and the spleen was much enlarged, reaching well below the umbilical level. The liver was not enlarged. The stools were normal. The skin reaction was positive to the tuberculin test. The heart and arteries were normal. Blood examination showed 2,261,000 red cells, 6820 leucocytes, polynuclears 38·2 per cent., lymphocytes 48·87 per cent., large mononuclears 8·98 per cent., eosinophiles 0·56 per cent.; microcytes and macrocytes were present. The child is still suffering from repeated epistaxes, and it is suggested to perform splenectomy later.

J. PORTER PARKINSON.

A case of congenital heart block (*Austral. Med. Gaz.*, 1911, xxx, p. 324).—**J. M. Gill** narrates a case of this condition in a girl, aged 14 years. Death took place suddenly. No venous pulse-tracing could be obtained, but a 1 to 1 radial respiratory rhythm.

F. R. B. ATKINSON.

A case of transposition of the heart (*Med. Record*, 1911, i, p. 962).—**Nathaniel P. Brooks** narrates a case in a girl of twelve years of age in whom the apex-beat was visible in the fifth interspace 2·5 inches to the right of the midsternal line, 5 inches below the ensiform cartilage in the mammary line. On auscultation the first sound was heard with maximum intensity at the same spot. The second sound was most pronounced in the third interspace at the right border of the sternum, and a distinct second sound was also to be heard at the left border of the sternum.

F. R. B. ATKINSON.

Occurrence of functional murmurs in children (*Austral. Med. Journ.*, 1911, xvi, p. 173).—**R. M. Downes** found that 32½ per cent. of the children at the Melbourne Children's Hospital presented hæmic murmurs. They were audible in the pulmonary area in 34 cases, at the apex in 23, and in both areas in 21, in the pulmonary and aortic areas in 6,

and in 19 in all three areas at once. In 89 per cent. of cases of children under four years of age, the pulmonary second sound was louder than the aortic second sound.

F. R. B. ATKINSON.

Extra-systole in childhood (*La Pediat.*, 1911, xix, p. 369).—**F. Visco** found extra-systole forty-eight times among 1000 children. Its presence indicated a cardiac disturbance due to unusual stimuli. This proves that the opinion advanced by some who admit extra-systole in adults but deny it in children is erroneous. It is met with in very diverse conditions, and in children is hardly ever the expression of cardiac affections or diminution in the force of the heart, but a simple functional disturbance without bad prognosis and without intrinsic value. The most usual causes are intoxications, and a state of irritable weakness of the nervous system. Rest, quiet and sleep ensure its disappearance, and therefore in the majority of cases exclude an organic lesion, which, on the other hand, is the most frequent cause of persistent arrhythmia in adults.

VINCENT DICKINSON.

The common behaviour of the heart in influenza and pneumonia in childhood (*Med. Review of Rev.*, 1911, xvii, p. 296).—**Le Grand Kerr** summarises this subject as follows: (1) Owing to the anatomical and physiological peculiarities of the child's circulatory apparatus the clinical manifestations are markedly influenced, and the danger to the heart in children is not the same as in adult life. (2) Cardiac involvement occurs very early in influenza and is probably myocardial, and the time to begin treatment of the heart is as soon as the diagnosis of influenza has been made. (3) In lobar pneumonia the heart rarely requires active treatment at any time during the onset of the disease. (4) In broncho-pneumonia the prolonged strain upon the heart demands active treatment, early and prolonged. (5) Coughing may be as important an element as increased blood-pressure in the production of cardiac hypertrophy.

F. R. B. ATKINSON.

The heart in malignant visceral rheumatism in children (*Paris Méd.*, 1911, ii, p. 117).—**E. Weill** and **G. Mouriquand** draw particular attention to the seriousness of heart lesions after a mild attack of articular rheumatism. The cardiac lesion shows itself by pain and tachycardia and stethoscopic and other signs. The pain may be slight and confined to the præcordia and increased on pressure, or intense and radiating extra-cardially. The tachycardia is always regular. The stethoscope frequently reveals mitral insufficiency. The authors lay particular stress on Jossierand's sign, namely, accentuation of the pulmonary second sound. It often precedes the other cardiac signs and is of serious import. The liver is often enlarged; signs of congestion of the lungs are frequent. The face is generally very pale. There is slight fever at the commencement of the malady, and this disappears as the condition improves, only to reappear at the terminal stage. This symptom is of great importance. Meynet's nodules on the periosteum, tendons and subcutaneous tissues are frequent. The prognosis is very unfavourable, and ten cases seen by the writers all died. The disease generally consists of three stages: first stage marked by pains in the cardiac region, an intermediate stage of deceptive improvement, and a third characterised by hyperthermia, hæmoptysis, and asystole ending in death. Examination of the heart microscopically reveals parenchymatous

myocarditis, associated or not with pericardial and endocardial lesions. The treatment consists in careful attention to all cases of rheumatism however slight and medication by salicylates. The writers recommend salicylate of soda dissolved in twice its volume of water, and two to four grammes injected subcutaneously. The authors believe that the thyroid gland plays some part in the disease, and recommend iodothyrene in addition to salicylate of soda. Digitalin in 1 in 1000 solution is recommended for alleviation of the pains and tachycardia.

F. R. B. ATKINSON.

Puncture of the pericardium through the epigastrium (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, 1911, xxxii, p. 133).—**Marfan** finds that this is a better way of puncturing the pericardium than that through the intercostal spaces. The trocar is inserted below the xiphoid cartilage in the middle line and directed obliquely from below upwards, and the handle gradually lowered towards the abdominal wall, so that the point of the needle approaches the posterior wall of the sternum. The needle must be inserted exactly in the middle line; contact with the posterior surface of the sternum is to be avoided, otherwise the needle will penetrate the cellular tissue separating the pericardial sac from the triangularis sterni. The author practised this method twelve times on a child aged $6\frac{1}{2}$ years, and found it quite easy and free from danger. He hesitated to perform pericardotomy, as, owing to the condition of the patient, he did not think a general anæsthetic advisable, and also because the statistics relating to pericardotomy are far from being favourable.

F. R. B. ATKINSON.

Blood-pressure in normal children (*Monats. f. Kinderheilk.*, 1910, ix, p. 257).—**W. Kaupe** examined the systolic and diastolic blood-pressure with Riva-Rocci's instrument in 144 normal children, aged from three to thirteen years; 123 were girls and 21 boys. Children below the age of three years would not keep sufficiently quiet to be examined accurately. The readings ranged from 80 to 100 mm.; in only a few cases were higher records made, chiefly in nervous and excitable children. No essential difference was found between the readings made in boys and girls. Strong children had often, but not invariably, a high blood-pressure; weakly children did not always show a low reading. There was a fairly constant difference of 8 to 9 mm. between the systolic and diastolic pressure.

J. D. ROLLESTON.

Blood-pressure in childhood (*Arch. f. Kinderheilk.*, 1910, liii, p. 332).—**P. Wolfensohn-Kriss** examined the maximum and minimum blood-pressure of 350 normal children aged from two to seventeen years by Riva-Rocci's and Basch's methods. She found that the blood-pressure rose with increase in the age, height, and weight respectively. In children of the same age, but of different weights, the blood-pressure was different. It was also different in children of the same age, but of different weights. Sex made no essential difference. Sixty-five sick children were also examined, but no definite conclusions were drawn.

J. D. ROLLESTON.

Blood-pressure in children (*Jahrb. f. Kinderheilk.*, 1911, lxxiii, p. 273).—**V. Salle**, using Recklinghausen's modification of Riva-Rocci's instrument on children aged from three to eleven years, found that the maximum and minimum pressure rose with the age, and within certain limits were dependent on the weight and size of the child. Deviations from

the normal were found in lymphatism, in which the pressure was lowered, and in neuropathy and nephritis, in which it was raised.

J. D. ROLLESTON.

Blood-pressure in infancy ('*Rio de Janeiro*,' 1911).—**M. Leitão**.—This monograph is based on the examination of 200 healthy children aged from one month to five years; 140 (70 per cent.) were in the first year of life. The systolic and diastolic pressures were taken morning and evening with Erlanger and Hooker's sphygmomanometer. Leitão's conclusions are as follows: Blood-pressure in children is normally low. It varies from 62–68 mm. Hg. in the second month of life, and rises progressively until the seventh month, ranging between 78 and 100 mm. in breast-fed children. From the seventh to the eighth month the readings were from 78–84 mm., but no breast-fed children at this age were available. From the eighth month to five years the blood-pressure remained almost stationary, but on the whole showed an upward tendency, occasionally rising about 100 mm. The pulse-pressure increased progressively, being relatively higher than in the adult, in the second month it was 18 mm. Hg., in the seventh month 28 mm., and from the eighth month until five years it varied from 20–34 mm. Sex and race had no influence on the blood-pressure in childhood. Artificial or mixed alimentation had a decidedly hypotensive action.

J. D. ROLLESTON.

The blood-pressure in the acute nephritis of children ('*Arch. of Pediat.*,' 1911, xxviii, p. 343).—**L. Gordon** records the systolic blood-pressure estimated by Martin's modification of Riva-Rocci's sphygmomanometer in seven cases of acute and two of chronic nephritis in children aged from two to eleven years. In three of the acute cases the hypertension was very great, viz. 180 mm., 162 mm. and 160 mm., as compared with the normal 88 mm., 81 mm. and 104 mm. respectively. The highest blood-pressure was found in those in whom only a trace of œdema was noticeable. In these patients the quantity of blood in the urine was very great.

J. D. ROLLESTON.

The effect of cold air on blood-pressure in respiratory affections ('*Med. Record*,' 1911, i, p. 180).—**B. Raymond Hoobler** found that in children with respiratory affections when placed out of doors that the blood-pressure rose 5–10 mm. Hg., e.g. a child with lobar pneumonia had a blood-pressure which varied one day from 95–110 when indoors: next day when out of doors it varied from 95–120. A case of pleurisy with effusion had an indoors pressure of 110 and an outdoors pressure of 130; on return to the ward it fell to 110. A child with incipient tuberculosis had an indoors pressure of 95 and an outdoors one of 105.

J. D. ROLLESTON.

Rigidity of the arteries in childhood ('*Münch. med. Wochens.*,' Jan. 31, 1911. *Abstr. 'Journ. A.M.A.'*).—**Hamburger** has frequently noticed unusual size and hardness of the arteries in children between the age of eight and fourteen; the findings are sometimes so pronounced that they suggest arterio-sclerosis or kidney disease, but he ascribes the phenomenon to nervous vaso-motor influences. Certain signs of neurasthenia and nervous irritability can usually be detected in these children, and this exaggerated tonus of the artery is encountered during the years when school life makes special demands on the nervous system. Disturbances of this kind are more common in ambitious, studious children.

T. R. WHIPHAM.

Contribution to the study of Oppenheim's disease (*Riv. di Clin. Pediat.*, 1911, ix, p. 1).—**L. Concetti** describes seven cases under his own care, the clinical picture of all seven corresponding to that of Oppenheim. A noteworthy fact was the state of changed somatic and psychic development which is usually associated with hypothyroidism, and in a wider sense with deficient function of the glands with internal secretion generally. In almost all there was excess of fat, œdema was noted in four, in one there were large supraclavicular cushions, desquamation of the skin in four, intellect backward in two, absolutely deficient in two others, in two there was deficient body development, in one the genitals were rudimentary, in another a Mongolian face, five died of broncho-pneumonia, and two were lost sight of. Although in one case there was a definite improvement without thyroid treatment, in three others in which this was tried the improvement was much more early and marked, without any electrical treatment: the symptoms of hypothyroidism also disappeared more rapidly and almost entirely.

VINCENT DICKINSON.

Case of congenital muscular atony (Oppenheim) (*La Clin. Infant.*, 1911, ix, p. 72).—**Ch. Chatelin** states that hitherto only seven cases have been published in France, and publishes in full this case which was shown at the Société de Neurologie. The boy, aged 4 years, had symmetrical and general muscular atony, most marked in the lower limbs and trunk—the face and ocular muscles were not affected. There was a laxity of ligaments which allowed abnormal positions of hyper-extension, faradic excitability abolished, galvanic normal.

VINCENT DICKINSON.

Friedreich's ataxia (*Med. Record*, 1910, i, p. 858).—**E. H. Hunt** showed two cases of this nature in sisters, one aged 11 years, the other aged 3 years. They were typical, and there was no evidence of syphilis (Wassermann's reaction negative, etc.).

ERNEST JONES.

Friedreich's ataxia in a child, aged 5½ years (*American Medicine*, 1910, xvi, p. 477).—**M. Neustaedter** reports an interesting and difficult case which he regards as one of Friedreich's ataxia. No similar condition had previously occurred in the patient's family. A boy was quite normal until the age of three years, when he began to suffer from vomiting. This was at first occasional, but by the end of six months took place several times daily, in spite of treatment. During these months he complained of headache and began to show unsteadiness in walking. After a short febrile illness of three days' duration the vomiting and headache disappeared, but he was left unable to rise or walk without assistance. Six months later ataxia of the upper extremities developed. At the age of 5½ years there is considerable muscular hypotonus present and the patellar reflexes are absent. An illustration shows well-marked genu recurvatum but no clubbing of the feet. There is no nystagmus. Intelligence, hearing, the fundi of the eyes and the sphincters are unaffected. The deep muscular sense has gone, but there are no other sensory changes. The gait is that of a "typical tabes," and the speech is rather slow. Argyll-Robertson pupils are present, and the serum reaction for syphilis is positive. No reference is made to the condition of the plantar responses or to the presence or absence of scoliosis. From the fact that the child gradually became ataxic soon after he was three years old and became progressively worse, it is seen that it is a case of great rarity and is by no means easily classified. The author discusses various con-

ditions which some have included under Friedreich's ataxia, but he makes no mention of a syphilitic juvenile tabes dorsalis, to which, except for the extremely early age of the patient, his case bears no little resemblance.

REGINALD MILLER.

Cobweb brain (*Journ. Amer. Med. Assoc.*, 1910, II, p. 998).—**Hunt** details the clinical history and pathological findings in the case of an idiot in whom the cerebral hemispheres were so degenerated as to justify the term "cobweb brain."

T. R. WHIPHAM.

Hemiplegia following acute infections (*Journ. of Amer. Med. Assoc.*, 1910, II, p. 1247).—**Jones** and **Hamilton** report with others three cases of right-sided hemiplegia in children, two of which followed diphtheria and one lobar pneumonia. The cause of the condition seems to be uncertain.

T. R. WHIPHAM.

Transcortical sensory aphasia (*Med. Press.*, 1910, II, p. 545).—**Fröschel** saw a girl, aged 11 years, who could speak under excitement or imitate like a parrot, but could not conduct thoughtful conversation. The girl could only repeat the sounds, and the words did not appear to have a meaning. She was neither dumb nor deaf. The case was apparently one of congenital loss of word-memory.

T. R. WHIPHAM.

Disseminated sclerosis in a boy, aged 6 years (*Guy's Hosp. Gaz.*, 1911, xxv, p. 183).—**H. C. Mann** narrates this very unusual case, remarkable for three reasons: (1) The early age of the patient. (2) The rapidity of the disease to a fatal termination within six months. (3) Early appearance of mental symptoms and rapidly progressive dementia which led to difficulties in diagnosis, which was not definitely made until microscopic examination of the brain and spinal cord was carried out. The plantar reflex was flexor and the abdominal reflexes normal.

F. R. B. ATKINSON.

Surgery.

Three cases of branchial fistula in infancy (*El Siglo Medico*, 1910, LVII, p. 582).—**Pedragosa** gives the notes of three cases seen by him; two were girls, one a boy. The fistulæ were all on the right side, two were close to the sterno-clavicular articulation, one opened just in front of the right ear.

M. D. EDER.

Congenital defect of both femora (*Gaz. hebdomadaire des Sci. Méd. de Bordeaux*, 1911, xxxii, p. 207).—**Petit de la Villeon** relates the case of a boy, aged 13 years, who, to sight and palpation, appeared to have complete absence of both femora: radioscopy showed that the upper articular surfaces were normal, but the shafts were merely represented by osseous fragments. Walking was easily performed, but the gait resembled that of congenital dislocation of the hips. The legs, feet, head and trunk were normal, but the left arm had undergone intra-uterine amputation about the middle of the humerus. The family history was good, and there was no history of other deformities in the family. The author discusses at length the possible origin of such anomalies.

J. PORTER PARKINSON.

Congenital absence of the pectoral muscles on the right side (*L'Echo méd. du Nord*, 1911, xv, p. 144).—**Leroy** and **Fontan** describe a man, aged 23 years, who had absence of superior and inferior portions of the pectoralis major and the pectoralis minor on the right side. The

clavicular part of the great pectoral was well developed and, indeed, somewhat hypertrophied. The pectoral muscle was composed of a clavicular portion and a superior and inferior sterno-costal portion. All or any one or two of these may be absent, the most frequent being a partial absence. This defect is usually accompanied by malformations of adjacent muscles such as the small pectoral, intercostals, trapezius, etc. The movements of the limb are but little affected.

J. PORTER PARKINSON.

Congenital hydronephrosis (*Journ. Amer. Med. Assoc.*, 1911, II, p. 110).—**Eisendrath** reports two cases, the first of which occurred in a horse-shoe kidney. The patient was a boy, aged 6 years, in whom symptoms began suddenly about two weeks previously with severe pain in the right side of the abdomen and vomiting. In the abdomen there was a distinct prominence above the level of the umbilicus. The temperature was slightly raised, the pulse 136, and the leucocyte count was 12,200, rising to 17,000. A diagnosis of appendicitis in a non-rotated appendix was made, but at the operation a horse-shoe kidney was found, the right end of which was converted into a translucent, thin-walled sac, while the left end presented a similar, though smaller, condition. On opening the sac a quantity of straw-coloured, clear, odourless fluid escaped. A drainage-tube was inserted and the wound healed by granulation in four weeks, the septic condition disappearing and convalescence being uninterrupted. The hydronephrosis had probably existed for a number of years, and from the absence of any marked dilatation of the ureters it is probable that the obstruction was close to the renal pelvis. The condition remained latent until infection occurred. The second case was a boy, aged 12 years, whose abdomen had been increasing in size for two years, although it had always been large. He voided large quantities of urine. The abdomen was prominent, especially on the left side, and a semi-fluctuating tumour could be felt in this region. The percussion note over it was dull. Cystoscopic examination revealed the flow of turbid urine from the left ureter, but ureteral catheterisation was impossible. The urine contained a large number of pus-corpuscles but no casts. The diagnosis of congenital hydronephrosis was confirmed by operation. The kidney was removed and drainage was inserted. The patient made an uneventful recovery in three weeks. The orifice of the ureter was greatly narrowed so as to scarcely admit even the smallest filiform bougie.

T. R. WHIPHAM.

Traumatic rupture of hydronephrosis (*Berlin. klin. Woch.*, 1910, xxxvi, p. 1435).—**Henes**.—A boy, aged 12 years, after a fall felt a severe pain in the right side of the abdomen, but was able to walk home. Vomiting and hæmaturia soon developed, and a tumour could be felt on the right side of the abdomen. Median laparotomy was performed, and the peritoneum of the posterior abdominal wall was seen bulging forward on the right. On puncture some blood-stained fluid was removed. The bulging peritoneum was then stitched to the abdominal wall and opened, when two litres of fluid were evacuated. Three weeks later the fluid escaping from the fistula became turbid and developed a urinous odour. The right kidney was then removed through a lumbar incision and showed a high degree of hydronephrosis through oblique implantation of the ureter and a perforation on its anterior surface.

J. D. ROLLESTON.

Congenital cystic degeneration of the kidney (*Med. Record*, 1911, I, p. 676).—**H. B. Mills** reports a case in a child, aged 14 months, which was

not diagnosed until operation was performed for a growth on the left side of the abdomen, which had been growing for seven months. The case had been diagnosed as enlarged spleen, hypernephroma and sarcoma of the kidney. The disease is a rare one, and the diagnosis extremely difficult. The prognosis is always unfavourable. This case terminated fatally five weeks after operation from consumption. The part of the body affected is not stated.

F. R. B. ATKINSON.

Cystitis in children ('*Rev. d'Hyg. et de m'd. inf.*,' 1910, ix, p. 460).—**Marcel Deschamps** gives an account of the bacteriology of the disease and the source of the infection, drawing special attention to the *Bacillus coli communis* as a causative agent and its occurrence in an acid urine. Amongst the predisposing causes, he mentions, with a case to illustrate, a condition but rarely seen—congenital narrowing or stricture of the urethra. He divides the disease into three degrees of severity: the latent, the ordinary and the very severe: The first is usually mistaken for one of its symptoms—enuresis; the third is a septicæmic condition often leading to pyelonephritis. Treatment varies as to the severity; the point is to remove the predisposing and active causes. As an injection he recommends argyrol 1-20, as it is both efficacious and painless.

RUPERT FARRANT.

Urethral prolapse in girls ('*Jahrb. f. Kinderheilk.*,' 1911, lxxiv, p. i).—**H. Brünning**.—A well-developed girl, aged 8 years, who had had some hæmorrhage from the genitals six months previously, suddenly developed frequent and painful micturition. A red cylindrical swelling, three fifths of an inch long, was seen protruding between the labia majora. On examination under an anæsthetic the genitals were found to be normal, and the swelling was found to be a total prolapse of the urethral mucous membrane. A radical operation was performed, and complete recovery followed. On microscopical examination the vessels of the part, especially the venules, were seen to be much dilated and engorged. In some places there was a round-celled infiltration, and in others hæmorrhage. Including the present case, Brünning has collected 76 cases in children between one and fifteen years of age. The condition is most frequent between eight and eleven years. Two varieties are described: (1) an acute form with sudden onset, due to trauma (attempted rape and blows on the abdomen), or to violent contraction of the abdominal muscles as in whooping-cough, constipation and dysuria. (2) A chronic form with gradual onset, due to inflammation of the urogenital tract or to congenital weakness of the tissues. The condition may be mistaken for prolapse of the uterus, polypus or other tumours. The prognosis is favourable if the prolapse is recognised early and suitable treatment employed, otherwise inflammation and even gangrene may ensue. Small prolapses may be cured by cold compresses, by the application of towels soaked in lead or boracic lotion, by astringents or caustics such as tannin and nitric acid, or by radial cauterisation with Paquelin's cautery. If these measures are not successful in a few days radical operation should be performed.

J. D. ROLLESTON.

Tuberculous peritonitis: cure following operation in the dry non-exudative form ('*Arch. of Ped.*,' 1911, xxviii, p. 284).—**Bradshaw** relates the case of an infant in which at the operation the intestines were found matted together with the usual appearance of tuberculous peritonitis. The cavity was absolutely dry, and a chain of greatly enlarged mesenteric

glands surrounded the cæcum like a rosary, corresponding to an elongated sausage-shaped mass, which was made out by a previous examination under chloroform. The glands were so embedded in plastic exudate and the intestines were so matted together that it did not seem feasible to do anything farther than to close the wound quickly. A marked improvement followed the operation, but after five weeks the infant became worse than before, so that a second operation was decided upon. An incision being made on the side of the abdomen opposite to the first operation, the same tuberculous appearance of the gut was seen as was found at the first operation, only in a more exaggerated form. The infant recovered from the severe operation and did well. He relates the case, as it is generally believed that surgery in the adhesive variety is of little avail, and is rarely recommended. In discussing the ætiology of tuberculous peritonitis he says that "although there is a difference of opinion as to the extent of the rôle bovine infection plays in this disease, there is a fairly unanimous opinion that a certain percentage of cases of tuberculous peritonitis arises from milk, rendering necessary a careful supervision of the milk supply."

J. E. BULLOCK.

The diagnosis of hip disease (*Rev. d'Hyg. et de Méd. inf.*, 1910, ix, p. 482).—**Ducroquet** emphasises the importance of an early diagnosis with its effect on the subsequent treatment and prognosis. The gait, pain and inflammatory swelling in the iliac fossa are the early signs. Contraction of the capsule is the pathognomonic sign. This contraction of the capsule causes the deformity and limitation of movement; it is not due, as Bonnet thinks, to a distension of the joint with fluid. A knowledge of these signs makes the diagnosis from other conditions, such as hysteria and psoas abscess, easy.

RUPERT FARRANT.

The causation and prophylaxis of deformities of the knee due to tuberculosis (*Arch. de Méd. des Enf.*, 1911, xiv, p. 241).—**C. Ducroquet** and **V. Veau**, in a short account of the two main deformities produced, are unable to account for the early position of semi-flexion, though they discredit the commonly accepted theory that it is due to the joint adopting the position of maximum rest. The later triple deformity they ascribe to walking, or to imperfect immobilisation of the joint. For their prevention they recommend the early application of a plaster, which must extend from the ischium and the great trochanter above to the os calcis and external malleolus below.

RUPERT FARRANT.

The defective attitudes of the hip (*Rev. d'Hyg. et de Méd. inf.*, 1911, x, p. 1).—**C. Ducroquet** gives a detailed description of the mode of progression in the various positions in which an ankylosed hip may be found. The treatment he adopts for vicious ankylosis following congenital dislocation of the hip, unless the bone is atrophied, is that of forcibly straightening the limb with the aid of a pelvic fixation apparatus. His results with six months' after-treatment appear most satisfactory.

RUPERT FARRANT.

The surgical treatment of talipes equino-varus in children (*Paris Méd.*, 1911, p. 471).—**Lamy** gives a short account of the operative treatment of this deformity, and is of the opinion that the osteoplastic operation of Ogston is the best, *i. e.* removing the tarsal bones that prevent

reduction, whilst leaving their cartilaginous extremities and allowing the spaces left to be filled with blood-clot for the formation of new bone.

RUPERT FARRANT.

The treatment of club-foot in infancy (*'Interstate Med. Journ.,'* 1911, xviii, p. 465).—**Silver** has an article on this subject, which is too long and too detailed for abstraction. Reference must be made to the original. In the same journal, p. 520, will be found a review of recent literature on the same subject.

T. R. WHIPHAM.

Treatment.

Potassium nitrate in measles (*'El Siglo Medico,'* 1911, LVIII, p. 4).—**Pedragosa**, writing after the use of this drug for some years and in two recent epidemics, recommends its use in measles. It shortens the disease and diminishes complications; has no bad effects. It must not be given to children under three years. After three years he gives 0.25 grm. in twenty-four hours, increasing the dose up to 2 or 3 grm. during the twenty-four hours for children of twelve to fifteen years.

M. D. EDER.

Treatment of whooping-cough (*'Therap. der Gegenw.,'* July, 1910, *abst. Journ. A.M.A.*).—**Bradt** ascribes the symptoms of whooping-cough to a local process in the upper air-passages, and advises local treatment. He uses a mixture of iodine and phenol .5 parts with 1.5 parts of potassium iodide and fifteen parts of glycerine in 100 parts of water, and with this he swabs the naso-pharynx for two or three seconds once a day. The patient should also be kept in the open air as much as possible.

T. R. WHIPHAM.

The dosage of tuberculin (*'Arch. of Pediat.,'* 1911, XXVIII, p. 93).—**Hamill** states that the opinions regarding the dose of tuberculin for the treatment of tuberculosis in early life are largely in favour of the smaller doses. For children under one year the dose has varied almost without exception from $\frac{1}{12000}$ to $\frac{1}{8000}$ mgrm., and for children from one to twelve years of age from $\frac{1}{4000}$ to $\frac{1}{1000}$ mgrm. He gives in detail the principles upon which Schlossmann (*'Deutsch. med. Wochens.,'* 1909, xxxv, p. 289) advocates remarkably high doses ($\frac{1}{100}$ mgrm. to $\frac{1}{10}$ grm.), which are considered dangerous by English observers. He concludes that tuberculous lesions, especially the glandular types of tuberculosis, are much more favourably affected by tuberculin than the pulmonary type, especially those with generalised symptoms.

J. E. BULLOCK.

Recalcification in children (*'Arch. de méd. des Enfants,'* 1911, xiv, p. 213).—**Comby**, basing his treatment on the observation of Perrier, that when dental caries is checked tuberculosis is retarded, and that tuberculous developments are coincident with dental caries, accompanied by phosphaturia, advises, in addition to general hygienic treatment by rest, open air, and good food, a careful avoidance of over-feeding, which causes dyspepsia and decalcifying intestinal fermentations. He prescribes a diet consisting of three meals a day, free from fats and acids and an alkaline water to drink; medicinally he orders a powder containing carbonate, phosphate and chloride

of calcium before two chief meals for ten days, followed by arseniate of soda, twice a day for ten days.

J. E. BULLOCK.

Treatment of surgical tuberculosis by sun-rays (*Paris Méd.*, 1911, I, p. 140).—**Rollier** describes the treatment carried out by him at Leysin continuously throughout the year. When the sun fails resort is had to radio-therapy for adults and Bier's congestion treatment for children. The direct sun-rays, without the inter-position of glass or concentration of radiation by lenses, is used exclusively. The air of high mountains, being free from the dust and micro-organisms which are found in the plains, allows the full effect of the chemical, luminous, and heat-rays to be obtained. Care is taken to avoid solar erythema and consequent dermatitis; as the skin becomes gradually bronzed by the sun a longer exposure is tolerated. Splints and bandages are removed as far as possible, so that the affected part may be exposed to the full rays of the sun. The treatment is applied to all forms of tubercular disease. It is found that cicatrisation is promoted and microbic life destroyed; the improvement, shown by illustrations, after a year's treatment is remarkable.

J. E. BULLOCK.

Blood-letting in children (*Journ. Amer. Med. Assoc.*, 1910, II, p. 1781).—**Stern**, following the teaching of Baginsky, states that blood-letting is indicated in affections of the heart and circulatory organs and diseases of the nervous system in children. Thus it may become necessary in pleuro-pneumonia, broncho-pneumonia, capillary bronchitis, with hyperæmic manifestations, chronic heart disease, rapidly succeeding convulsions caused by hyperæmia of the brain, and grave nephritis with uræmic symptoms. The action of full depletion is a merely mechanical one: the right side of the heart or the hyperæmia of the brain is relieved. In chronic hydræmia and cachectic states blood-letting is distinctly contra-indicated. According to Baginsky, if the blood escapes freely a fifteenth or a twentieth part of the entire blood of the child may be withdrawn with impunity. The following table shows the amount that may be safely abstracted at the different ages:

Age.	Body-weight.	Amount to be withdrawn.
1 year	10 kilog	25-45 c.c.
3 years	12.5 "	45-65 "
5 "	16 "	50-73 "
7 "	20 "	50-85 "
10 "	24.5 "	85-110 "
14 "	38.5 "	100-170 "

On occasions, and especially in cases of uræmia, even more blood may be withdrawn. Arteriotomy should be employed in cases of existing or imminent pulmonary œdema, but in most cases venesection is resorted to. The median, median cephalic or median basilic veins are the best suited for the purpose, or one of the saphenous veins. Wherever possible, however, the author recommends venepuncture, and a number of veins may be punctured until the desired amount of blood has been secured. In the child this operation is more difficult than in the adult on account of the slight prominence of the veins and the fat tissue of the arms.

T. R. WHIPHAM.

Reviews.

THEORY AND PRACTICE OF THYROID THERAPY. By HERBERT EWAN WALLER, L.R.C.P., M.R.C.S. Pp. 154. London: John Bale, Sons and Danielsson, Ltd. Price 5s. net.

THE scope of this book is indicated in its sub-title—"Being some experiences of the results of thyroid medication, with deductions concerning the influence of thyroid secretion in health and disease, and certain effects of drugs and various circumstances upon thyroid secretion." The author has a considerable enthusiasm for his subject, and writes fully of his observations and theories. He concludes that "some understanding of thyroid matters is essential to the practitioner in treating every case, and will materially improve his success in the treatment of fully one fourth of his patients."

Mr. Waller accepts Dr. Leonard Williams' view as to the function of the thyroid gland in fixing the calcium salts of the body, from which it is deduced that a failure to assimilate lime-salts is due to thyroid depression. From the point of view of children's diseases the most interesting chapters are concerned with the relationship of thyroid inadequacy to rickets and dental caries. Other subjects which are discussed include nocturnal enuresis, enlarged tonsils and adenoids, obesity, goitre, and eczema. The book closes with some hints on the administration and dispensing of thyroid.

The volume is written in a free, almost conversational manner which renders it very readable, but such a style is with difficulty made successful in treating some of the highly debatable points raised. The author's presentment of his case would be improved by greater attention to the condensation and precise arrangement of his arguments. R. M.

MEDICAL REVOLUTION. By SYDNEY W. MACILWAINE, M.R.C.S., L.R.C.P. (retired). London: P. S. King & Son, 1911. Price 2s. 6d. net.

THE author has emerged from his retirement to write a small book which may be divided into two parts—one constructive and the other destructive. The writer takes objection to Virchow's statement that every chronic disease is rooted in an organ, and believes that the causation of disease is not sufficiently studied, and until the cause is discovered a diagnosis cannot be said to be made. He divides all causes into extrinsic and intrinsic, the former parasitism, poisoning, and traumatism, and the latter incomplete development, constitutional defects, overwork, deficient work, and wear and tear. The second part contains the author's views on the inadequacy of hospitals as at present constituted for the prevention of disease, and the suggestion that around each large hospital there should be an institute for the accommodation of four or five practitioners, who should be in touch with the hospital staff, and whose primary duty would be to discover why the various diseases occurred. Institutes for trained nurses should also be established in the same districts. The book is easy to read, and contains many excellent ideas. F. R. B. A.

THE FEEBLE-MINDED IN ONTARIO: FIFTH REPORT FOR THE YEAR 1910.
By Dr. HELEN MACMURCHY. Toronto: L. K. Cameron, pp. 66, 1911.

Dr. MACMURCHY's instructive report begins with a reference to the interest taken in her work by the lay and medical press, by fellow alienists in this country and abroad, and by the general public in America. Thus, in Nova Scotia a league of 150 persons has been formed to elaborate a scheme for the care of the mentally deficient and to bring it to the notice of the Government. Public lectures have been given on this subject by Dr. W. B. Caley, formerly medical officer to one of the Yorkshire education authorities. A most practical suggestion comes from Ontario, where Mrs. Willoughby Cummings suggested that parents of defective children should be persuaded to purchase Canadian Government annuities, which would provide for their future. The extent of the evil and the scanty accommodation for its superintendence and prevention is shown by the fact that in Toronto 92 defective children have been born out of 132 illegitimate unions, and that in Ottawa city there are at least 24 persons of deficient intellect; 4 of these have violent tendencies and are at large.

Dr. MacMurchy graphically portrays the evils of the *laissez-faire* policy, which result in crimes of incest and murder, and gives examples of how difficult it is to prevent pregnancy occurring, even when the cases are watched by careful parents in respectable middle-class homes. A typical case of a male defective is described, showing the comparative ease with which low-class labour is obtained, and enforcing the lesson that the ordinary employer discharges these unfortunates after a week or two, with the result that they commit some petty theft and have to be imprisoned till a vacancy occurs in some special institution. A description is then given of the cases in the Haven and Industrial Refuge. Stress is laid upon the marked histrionic ability of some of these defectives, and of the considerable artistic skill possessed by those afflicted with uncontrollable erotic impulses. Great improvement has resulted from the careful teaching of the homes. A case, who could only nurse a doll, can now read, write, and wash and iron clothes beautifully. She has also committed three chapters of Scripture to memory—a marvellous achievement!

The Report concludes with an account of what is being done in other parts of the American Continent and in Europe.

In the United States there are 43 schools for 17,900 defective children. In Iowa University there is a special department for the study of amentia, and, best of all, Prof. Stanley Hall is devoting his genius to this difficult subject.

C. R.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY, vol. xxii, 1911.
New York: E. B. Treat & Co. Price not stated.

THIS volume, reprinted from the 'Archives of Pediatrics,' contains the proceedings and papers of the meeting held in 1910, under the Presidency of Prof. Edsall, at Washington, D.C. The papers have therefore appeared already, but attention may be briefly drawn to some of the more interesting. Poliomyelitis is fully considered from several points of view; the experimentally produced disease and its relation to human beings are dealt with by Flexner, and the clinical bearings are discussed in papers by Emmett Holt and Snow. Morse studies the value of Brudzinski's "neck sign" and of the contra-lateral reflex in the diagnosis of meningitis in

infancy and childhood, and finds that though they never occur in healthy infants their absence does not exclude meningitis. Dunn writes on the cyto-diagnosis of tuberculous meningitis, and Huber gives a report on eighty-six cases of empyema. The bacteriology of the blood in early life has been investigated in forty-four infants during life and in fifteen necropsies by Churchill and Clark, and gave rise to some discussion as to the practical application of blood-cultures in infants on account of the difficulty of obtaining sufficient blood from the small veins available. H. D. R.

THE PHARMACOPŒIA OF THE QUEEN'S HOSPITAL FOR CHILDREN. Compiled by a Committee of the Medical Staff. Fifth edition. Pp. 73, interleaved. H. K. Lewis, 1911. Price 2s. 6d. net.

In addition to the formulæ this compact little work contains advice to parents on the care of their children's teeth, directions for bringing up children, for the management of children after removal of tonsils and adenoids, and for the care of paralysed children and for those suffering from paralysis, ringworm, and impetigo. J. D. R.

REPORT OF THE POLIOMYELITIS COMMITTEE OF THE MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA: EPIDEMIC 1910.

THIS report follows the lines of others from different parts of America. In all, some 506 cases were investigated. The results confirm what is already known as to the epidemiology of the disease. In the city of Washington the cases were spread over a wide area and appeared un-influenced by sanitary conditions. July and August showed the greatest case-incidence. It is interesting to note that the season was not unduly hot, but that the rainfall was much below the average. The summer weather coincided very accurately with the duration of the epidemic. The sex-incidence showed the usual peculiarities; under the age of fifteen there were 130 males and 92 females affected; above this age there were 21 males to 3 females. The youngest patient was four months old, and the oldest sixty-four years. The maximum incidence was during the second and third years of life. The case-mortality was 3 per cent.

In one locality, prior to the outbreak of the epidemic in human beings, there was an outbreak of a disease with paralytic symptoms in ducks and chickens. A man who performed an autopsy on two ducks having this disease shortly afterwards contracted poliomyelitis. Careful investigations, however, failed to show any relation between the disease in the animals and poliomyelitis in human beings.

The cerebro-spinal fluid was examined in 11 epidemic cases by Drs. Hough and Lafora. In very early instances they were able to note an increase in the polymorphonuclear cells which was replaced within four or five days of the onset by the usual lymphocytosis. From their findings these observers are inclined to favour a protozoal nature for the virus of the disease though recognising that such a conclusion is not in accord with the results of other workers.

Special inquiries were made into the occurrence of inflammatory conditions of the respiratory mucous membranes and of the throat at the onset of the disease, but these were found as a general rule to be conspicuously absent.

The report is reprinted from the 'Washington Medical Annals,' vol. x, No. 2, May, 1911.

R. M.

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Original Articles.

THE CLASSIFICATION OF DEAF CHILDREN.*

By MACLEOD YEARSLEY, F.R.C.S.,

*Senior Surgeon to the Royal Ear Hospital; Consulting Aural Surgeon
to the Royal School for the Deaf and Dumb, Margate; Medical
Inspector of London County Council Deaf Schools, etc.*

I OFFER no apology for introducing this much-discussed subject, for in your resolutions for conference you have one which bears directly upon the classification of deaf children, and which if passed would tend greatly to enhance the efficiency of deaf education. I do feel, however, that the task should have been better placed in other and more able hands.

The proper classification of the deaf is the basis of efficient education, and I should think that few, if any, rational educationists would now have the hardihood—I might almost say, the thickheadedness—to lump all sorts and conditions of deaf children into one class and to teach them by one system. So painful a method would be neither scientific nor humane. By rational classification, combined with early education, alone can be obtained the best results, and these must be the guiding methods of the future, for they will bring out *individuality*, and if deaf education is to be efficient, it must make the study of the individual child its first consideration,

* Read before the Conference of the National Association of Teachers of the Deaf at Manchester, July the 26th, 1911.

with the view to adapting to each child the system best suited to his needs and calculated to develop his faculties to best advantage.

Those of you who know my opinions are aware that I take a much wider view of the deaf child than falls within the definition of the Act of 1893. I would make any system of classification include not only the normal totally deaf and semi-deaf, the blind and mentally defective deaf, but also the child who is hard of hearing and the child who is very slightly deaf. In a word I would make it embrace every defect of hearing from the scholar who can be taught perfectly well in an ordinary hearing school to the mentally defective deaf-mute who requires the most highly specialised teaching in an institution. Deafness is a physical defect which is one of the most serious that can befall us, and it has been terribly neglected until comparatively recently. If my suggestion were carried out universally, deafness would of necessity receive more attention, and many cases would be cured or at any rate prevented from progressing further. It is not that the doctor "has failed in his duty to the deaf," as Mr. Payne has publicly asserted, but that he has not yet had sufficient chance to exert his powers for the prevention of deafness in its early stages.

I need not go into the details of my suggestions as to classification, as they have been published in full already. I must, however, repeat the scheme in outline, and I am anxious that it should be discussed very fully. It includes every child who shows any sign of loss of hearing, be it ever so great or ever so small. It is based primarily upon school medical inspection, and classifies the deaf into four groups—the slightly deaf, the semi-deaf, the very deaf, and the defective deaf. Between these four groups there is no absolute line of demarcation; they shade one into another. In the very deaf class must be included normal deaf-mutes and those with residual hearing (vowel hearing or for very loud speech close to). The semi-deaf should comprise those who are possessed of a greater degree of hearing, sufficient to give them a certain amount of residual or natural speech. The slightly deaf can be divided further into two groups of "very slightly deaf" and "hard of hearing." The educational methods necessary to the efficient teaching of the four primary divisions range from the various deaf schools and institutions to the ordinary hearing classes of the elementary school. I have suggested that for practical purposes of efficient teaching the slightly deaf should be subdivided into the very slightly deaf who can hear whispered speech at from three to six feet, and the hard of hearing whose acuity is less than three

feet, their defect being not so marked as that of the next class. The very slightly deaf can be taught in a hearing class, individuals who require it being placed in the front desks. For the hard of hearing, I would establish special classes in addition to the ordinary hearing school curriculum, these classes being held in hearing schools and in charge of visiting teachers of the deaf.

Taking next the semi-deaf, with whom I would class those who cannot hear the whisper, and whose acuity for spoken speech is four feet or less, a comparatively considerable amount of residual hearing when contrasted with the deaf-mute. Those who have only vowel hearing or hearing for very loud speech close to are not included. The range of hearing in these cases will be wide and the factor of mentality will be of great importance. The children included in this class will fall, therefore, into two groups—the better cases and the worse cases. The former, scholars of good mentality, fair residual hearing, and natural or residual speech, would be educated best as permanent units of special classes under teachers of the deaf, and probably it would be better that they should not be permitted to mix with the very deaf, and that precautions should be taken to prevent them from sign contamination.

The worse cases, with more marked degree of deafness, of doubtful mentality, or with defects of speech, are on the borderland between the better cases of the semi-deaf and the very deaf; with them, as with the very deaf, no modification of ordinary school methods is possible. They require education in a special school for the deaf, *the study of each individual child being of paramount importance*. The extremist in oralism will want to educate them all on the oral system, the fanatic in signs will try to reduce them to a painful, dead level of signing—condemned to perpetual dumbness, a class apart from their fellow-creatures. Both are wrong, both are to be condemned, although the extreme oralist is entitled to sympathy because he wishes to raise the deaf child to speech, whilst the extreme advocate of signs, and nothing but signs, would condemn him to everlasting dumbness. It is *the child* who must be studied, not the system, and as long as I live it will be my endeavour to insist upon this, to preach it, not with the same eloquence as my colleague, Dr. Kerr Love, nor with his unrivalled experience, but certainly with equal sincerity and ardour. If the child shows progress under the oral system, then push him along that line heart and soul, and protect him from every influence that may run him off its rails. If he is a failure at oralism, the sooner it is acknowledged the better, so that he can be educated upon some other system. Perhaps his case may

lie between the two, then take advantage of both systems. It is not for the system to take advantage for the child, but for the child to profit by the system. I might even go a little further and say that the child must profit by the school and not the school make a profit out of the child. The educationist exists for the child, although some appear to think that children were specially created for their emolument and advantage, and since the educationist exists for the child he must study the child and adapt himself to the child. This is so throughout the whole educational system. We set out to educate the child and immediately are confronted with the fact that he must be classified. After much groping through dark ages, when the birch took the place of classification, the child was roughly classed into normal, physically defective and mentally defective. Then the second category had to be further subdivided into crippled, blind, and deaf, whilst the mentally defectives were grouped as uneducable idiots and imbeciles and educable mentally deficient. We pass from the general educationist and come to the educationist who is specially concerned with the deaf. No sooner has he started upon his work than he is, in his turn, confronted with the necessity for classification, without which he can make no real progress in the work he has to do. And all this, gentlemen, which you may think to be an unnecessary digression, shows how the individual child must be studied, and how success hangs upon that study before it hangs upon some particular system.

But to return to the classification I suggest; under present conditions, the worst cases of the semi-deaf must be taught with the very deaf. It is likely that it may be found possible later to classify both classes and re-arrange the educational methods applied to them to better advantage. If the very deaf and the worse cases of the semi-deaf fail under the oral method (which, without being an extremist, I take to be the ideal method), they must not be allowed to influence the oral successes. It is here that classification is of greatest importance, and it is here that the study of the individual child reaches its greatest value. Once experience has proved that a scholar, after thorough and careful trial, will never attain to speech, I might almost say *useful* speech, he should be transferred to another system as soon as the fact is recognised beyond a reasonable doubt. It is with a view to the recognition and elimination of obstacles to the child's best progress that careful scientific classification is of so great importance.

With the very deaf (and also with the worse cases of the semi-

deaf) careful and close study of individual mental capacity is of first importance. Every child must be classified for educational purposes, so that his teacher may get the best out of him. I believe this would be easier if we could have a preparatory school, something like that at Fredericia, in Denmark, but one to which the children came at an earlier age than is at present compulsory. The slightly dull child who may be left hopelessly behind in a class of deaf scholars of normal mentality may appear comparatively bright in one of the mentally defective deaf because he is *unioculus inter cecos*, and he is not receiving his full educational rights if he is placed in either class.

The very deaf ("deaf-mute") child is one whose deafness is total or whose residual hearing is of so slight a nature as to constitute a negligible quantity so far as education is concerned. The normal very deaf child is probably better in a day school, provided his parents feel their responsibilities sufficiently to help in his education at home. One of the greatest troubles in our modern educational methods is the control of the home and its surroundings. This has been well indicated in the paper which you have heard from my colleague Dr. Kerr Love. The home surroundings are of enormous importance in the education of the deaf and influence classification in no small degree. It is no use grading a child for work if his attendance is irregular and his home surroundings are morally and physically bad. This is a matter which merits discussion at your hands and upon which I should like to hear put forward some resolution.

The very deaf may be subdivided into oral successes and oral failures, and either of these might be further graded according to mentality. As with the worse cases of the semi-deaf, there will be certain borderland cases who may be educated partly by one system, partly by another. Both groups require special education, both require careful classification, especially those who have failed under the oral system. It is only by study of the individual child that the causes of failure can be ascertained. The oral successes must be kept rigidly to the oral method, the failures require to be segregated and trained by other systems. As I have just said, borderland cases will occur, and it is obvious to the physiological educationist that even a small proportion of speech is a precious possession not to be lightly withheld. It is not a question of what special system is the best to follow but of what system or combination of systems is best for the individual child. It is essential that this should be kept clearly in view by everyone who has the welfare of the deaf child at heart. It would be of advantage if the

words "Remember the Deaf Child" were prominently displayed in every deaf class room.

I have placed in a class by himself the defective deaf child, one to whose auditory incapacity is added the infirmity of blindness or of mental deficiency. These children require very special instruction under teachers of high capacity and experience. I need not stop to discuss this group of scholars here, but I would like to applaud the humanity of the third of your resolutions for conference. The segregation of the feeble-minded deaf and their permanent care would be a very great step forward. It is humane and it tends to betterment of the race. It is one of the most progressive and eugenic resolutions yet put forward by any body of educationists, and it has my warmest support.

Now the system of classification which I have suggested in this paper is somewhat elaborate, and I am prepared to hear that it is not practicable, save in large cities. My experience of deaf education has been obtained in London, and I believe that classification of a reasonably elaborate nature is quite possible in a vast city like London. It is largely a matter of organisation. The schools we have could be utilised, and given efficient school medical inspection I cannot see why every deaf child in London could not be detected and classified for education. By my system a certain number would be educated away from the deaf schools, a percentage of them being under instruction by teachers of the deaf. Some of these children now attend deaf schools and ought not to be there; they occupy places that should be occupied by pupils more fitted for a deaf centre and who are thus made, maybe, to lose precious time.

But what of small cities and towns, what of country districts, and what of large institutions? Some modification of the suggestions contained in this paper is necessary, and I do not see why such modification could not be made, so that efficient classification, providing for every grade of deaf child, should not come within the range of practical politics. I leave the matter to your discussion and I do not doubt that, having the welfare of the deaf child at heart and being possessed of great experience, you will arrive at a satisfactory solution.

DISEASE IN HOMOGENEOUS TWINS.

By E. A. COCKAYNE, M.B., M.R.C.P.

THE physiological and psychological likenesses between pairs of twins developed from a single ovum have often been made use of by writers of fiction, and have been carefully investigated by Galton, who gives some most interesting examples of both in his book 'Inquiries into the Human Faculty and its Development.' The resemblances have been found to extend to various pathological manifestations of body and mind. Of the former the most obvious are errors of development, which have been discussed by Ahlfeld, and more recently by Windle, who state that they are not so common as Ahlfeld has suggested. In spite of their permanent and striking character he has only been able to collect records of nineteen cases, and to these I have added three more. Of diseases occurring simultaneously in twins I can find few recorded instances, but have recently met with the following example:

Two boys, aged 13 years, remarkably alike in face and figure, are homogeneous twins, as is proved by the mother's statement that there was only one placenta. Though both are quick and excitable in disposition they have shown no definite nervous trouble in the past, and there is no history of nervous disease in the family. Until seven months ago, at the age of twelve, they were quite healthy. Then both began to suffer from lenteric diarrhœa, which became worse, and had continued up till three months ago, when I first saw them. On many days they used to pass a loose motion soon after every meal, even when they had only eaten a piece of bread and butter, and in addition, often had diffuse abdominal pain, which was relieved after the bowels had acted.

On some days the diarrhœa was less troublesome, but was never entirely absent. In spite of their voracious appetites they had steadily lost flesh, and weighed respectively 4 st. 2½ lb. and 4 st. 4½ lb.

The smaller fluctuations in the severity of the symptoms have not always corresponded very closely in the two boys, but the general course of their illness has been the same. Their condition has shown a parallel improvement under treatment, and for some time past they have had no pain, the diarrhœa has ceased, and they have begun to increase in weight.

The treatment consisted in giving them easily digestible food, in making them eat slowly and in moderate amount, and in insisting that they should lie down for half-an-hour after each meal.

The medicinal treatment, to which little importance was attached, was different in the two cases. To one potassium bromide and tincture of belladonna was given, to the other aromatic chalk powder and tincture of catechu. Apparently these drugs had no influence on the course of the disease, or if they had any effect it was equal in both.

The only other undoubted instance of a functional neurosis in homogeneous twins is the case mentioned by Trousseau of two brothers, physically much alike, who invariably suffered from asthma when at Marseilles, but were always free from it at Toulon. Both also suffered from rheumatic ophthalmia (ophthalmie rhumatismale) at the same time, even when they were staying in different places. Trousseau states that he has met with other similar cases in his practice.

Gould and Pyle quote a case of Marshall Hall, which I have been unable to trace to its original source, of male twins nine and a half months old, who became simultaneously affected with restlessness, whooping and crowing in breathing, and three weeks later had simultaneous convulsions.

Clifford Gill gives a case in which twins had headache and biliousness at the same hour, though one was at York and the other at Scarborough. The one said at the time of her attack that her sister was suffering in the same way and this proved to have been the case. In later years these sisters became insane at the same time.

Kleinwächter gives examples of congenital disease of infective nature such as variola and syphilis occurring in twins of this type, and the case described by Anseaux of twin brothers, much alike in appearance, who were born with goitres alike in size, may fall into this group. The specific fevers are naturally very liable to attack twins at the same time, but Galton has proved that they are much more likely to attack homogeneous twins at the same time and that the diseases are more apt to run a precisely similar course in them than in heterogeneous twins or ordinary brothers and sisters. This was noticed in no less than nine out of thirty-five cases. He gives an example where this occurred successively in whooping-cough, chicken-pox, measles, and a feverish attack of uncertain nature. These twins also had bilious attacks at the same time. The true cause of this phenomenon is doubtless that the susceptibility to and the power of combating the infecting organism is inherited in like degree by both children.

Marandon de Montyel describes in detail a most interesting case

of female twins which demonstrates the inheritance of this kind of susceptibility. They bore a great physical and mental resemblance, walked and talked at the same age, and began to menstruate on the same day. They had the following illnesses identical and simultaneous in each instance: colds, intestinal trouble, measles, mumps, and a very mild attack of chicken pox. After they had married and were living in different places, they became pregnant at the same time, and in the fourth month of pregnancy each had a sudden and apparently causeless attack of acute mania with identical religious and erotic hallucinations. Their children, boys, were born within forty-eight hours of one another, and after this the twins rapidly improved, and in less than a month were cured.

An instance of chronic infective disease in twins is that given by Worcester, of male twins who were mentally deficient from birth, and after becoming insane were found to be suffering from phthisis, the one in November and the other in December of the same year, and who died of the disease within a few months of one another. Galton's case of twins in a Government office who died of Bright's disease at an interval of seven months probably shows that they had an equal degree of susceptibility to the same toxin. The Laustand brothers are often quoted as an example of twins who always had diseases at the same time, but beyond the fact that they developed cataract of the lens together, the character of their illnesses is not described.

Probably these cases are more common than their infrequent mention in medical literature suggests.

More attention has been paid to mental disease in twins. Soukhanoff, in 1900, gives a short analysis of the thirty-three cases of insanity in twins (*folie gémellaire*) recorded up to that date, with a bibliography, and I have given references to four recorded more recently.

In two cases the twins were clearly of the heterogeneous type, and in a few of the others it is doubtful to which class they belonged. The list includes many forms of insanity; in some cases there was congenital mental defect, in one case accompanied by slight enlargement of the thyroid gland and in another associated with microcephaly, in others it appeared later in life. There is one case of dementia præcox and one of general paralysis, which appeared in twin brothers at the age of thirty-seven, and of which they died within three months of one another. In most cases the twins were of the uniovular type, alike in appearance and mental character, and the form of the insanity in each pair was the same.

The onset and course of the disease with its simultaneous remissions or exacerbations and the delusions and hallucinations, when they were present, were alike in both, and in some suicidal or homicidal impulses occurred at the same time in both.

In two cases where the first appearance of the disease was separated by some years, the environment and life-history of the affected twins had been very different, but the insanity conformed to the same type in each when it did appear.

In some there was a definite history of insanity in one or both parents, or in a close relative, in others none. But its absence does not make it improbable that the disease was inherited, especially in view of the results of recent work by Cannon and Rosanoff in the Eugenics Record Office in America, which supports the view that some forms of insanity follow the Mendelian Law of Heredity, as has been proved already in the case of some family diseases and deformities. In fact much of the interest and importance of a study of the bond between twins in health and their morbid sympathy in disease is due to the light thrown by it on the extent to which the various physiological and pathological processes of mind and body depend on inborn factors, though in many instances an additional external factor is necessary to bring it to notice.

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A CASE OF INFANTILE SCURVY DUE TO STERILISED MILK.

By WALTER R. JORDAN, M.D.,

Hon. Physician, Children’s Hospital, Birmingham.

ON May the 1st, 1911, an eleven-months-old baby was brought from Walsall to the Birmingham Children’s Hospital as an out-patient, with the complaint that it had never been well since birth, was wasting, and was always crying. It took but little food, and never went a whole day without vomiting. Its motions were at times relaxed, at others costive.

On examination there were found to be no abnormal signs in the chest or abdomen, the spleen, however, being just palpable. There were slight signs of rickets. There was a very marked *glossitis migrans*, and it was while this was being inspected that an assistant, catching sight of the lower gum, exclaimed “Why, it has scurvy as well.” It was found that the only teeth *cut* were the lower central incisors, and that the gum was bluish and spongy about the left of these. In the upper jaw no teeth were erupted, but over the position of the central incisors were to be seen two large, bluish, spongy masses.

Further inquiry elicited that there had been bleeding from the mouth, and that two weeks earlier orbital ecchymosis had been observed.

The child had been fed from its birth on sterilised milk exclusively, except that for the last four months barley-water, made with Robinson’s patent barley, had been added, and that in the same period it had had two tins of Savory and Moore’s food. Great care had been taken to get and to keep to the sterilised milk, as it was believed to be “the best.”

Put on fresh cow’s milk, with citrate of soda, orange-juice and raw beef-juice, the infant began to improve at once, and by May the 15th the gums had become absolutely healthy, while there had been no

vomiting for four days. It still remains under treatment, as it has occasional attacks of intestinal catarrh.

A case of similar origin was reported in March of this year by Mr. Francis Brachi and Dr. J. Walter Carr, while some years ago the late Dr. Henry Ashby reported one, but there are few on record. I am inclined to think there might be many more if more medical men realised that feeding with sterilised milk involves the risk of scurvy, and if in all cases of infants so fed the gums were carefully inspected. Probably in busy practices and congested out-patient departments this is not the invariable rule, and so some cases are missed. In infants who have cut no teeth we lose the aid of the changes in the gums in making a diagnosis, and we have then to base that of scurvy on exceptional tenderness of limbs, with disinclination to voluntary movement, confirmed only in some cases by demonstrable sub-periosteal or other hæmorrhages. If we keep the point well in mind and are prepared to act on suspicion these extreme developments will often be prevented.

It is particularly important to bear in mind scurvy as a cause of anæmia, crying when picked up, and general malnutrition in infants at a time when the conclusions of the Tuberculosis Commission are likely to lead to a greater resort than ever by the public and the profession to the use of sterilised milk and sterilised patent foods in infant feeding.

I am not infrequently asked by professional brethren, "But what is your objection to sterilised milk?" I am glad to have an opportunity of replying by reporting this case, and of reminding them that for every marked, unmistakable case such as this there are scores of ill-defined ones with slight symptoms, needing, however, like treatment.

British Medical Association.

SECTION OF DISEASES OF CHILDREN.

Seventy-ninth Annual Meeting, held in Birmingham, July the 26th and 27th, 1911.

Diagnosis, Prognosis, and Treatment of Tuberculous Peritonitis.—Dr. H. D. ROLLESTON said that tuberculous peritonitis presented the following different forms and phases: (a) Miliary with ascites; (b) adhesive with caseo-purulent lymph; (c) fibrous adhesions leading to obstruction or

embarrassed peristalsis of the intestines. Diagnosis was most difficult in the earliest stages, especially in young babies, in whom tuberculous peritonitis was uncommon, a distended abdomen being a common result of gastrointestinal catarrh. The condition might be latent, and only be discovered at an operation for hernia. The onset appeared to be acute in about one third of the cases, and might then suggest appendicitis or pneumococcal peritonitis, and in cases of generalised tuberculosis, enteric fever. The ascitic form of tuberculous peritonitis had to be distinguished from the ascites of cirrhosis and sarcoma and from polyorrhomenitis.

Encysted tuberculous peritonitis must be differentiated from various tumours and cysts. Enlarged glands could be distinguished from faecal accumulations by enemas and purgatives.

The *prognosis* was good in the fibrous and ascitic forms, bad in the caseous and ulcerative cases, in mixed infections, in cases of much pyrexia, and in the presence of acute tuberculosis elsewhere. In children the prognosis was better than in adults, probably on account of the greater incidence of more extensive tuberculosis, *e.g.* of the Fallopian tubes, or of hepatic cirrhosis in adults.

Treatment was discussed under the heading of hygiene, drugs and diet, vaccine treatment, X-rays, and surgical treatment. Dr. Rolleston's experience of vaccine treatment was inconclusive. X rays, which had been given a fair trial, did not appear to have any therapeutic value.

Operation was contra-indicated in general or widespread tuberculosis, in infants under twelve months, and in patients with signs of pulmonary tuberculosis. It was unnecessary in the fibrous and adhesive forms in the absence of intestinal obstruction, and necessary in cases of abscess formation and intestinal obstruction.

Professor G. A. WRIGHT said that in his experience the three most constant conditions in tuberculous peritonitis were distension, pain, and the presence of a local palpable mass. Elevation of temperature existed in only a small minority of cases. The diagnosis might be very difficult, especially in acute cases, and could only be made certain by operation.

The ultimate results of laparotomy and its therapeutic value were summed up as follows:

- (1) Probably not much more than half the cases would reach adult life, for a large proportion would die from some form of tuberculosis in a few years, though the immediate operative mortality was small.

- (2) There was no hard and fast line between ascitic and plastic cases in regard to morbid anatomy, operative treatment or mortality.

- (3) Tuberculous mesenteric glands might be safely removed, and in some cases certainly should be.

- (4) The rôle of surgery in tuberculous peritonitis was rather to remove secondary troubles, *e.g.* intestinal obstruction, or to get rid of a collection of fluid or local masses of tubercle, than to play any great part in the prevention or cure of the disease as a whole.

General (Edema Following Gastro-enteritis in Children.—Dr. W. E. HUME (Newcastle-upon-Tyne) had seen thirteen cases in children aged from thirteen months to three years. The hands and feet were affected in each case, and in seven the oedema was universal. All showed some cyanosis of the extremities which could be removed by heat or friction. The blood examined in eight cases showed secondary anæmia. Treatment consisted in hypodermic injection of adrenalin chloride twice daily. In the two fatal

cases there was an abnormal degree of fibrosis in the supra-renals. There was no clinical or pathological evidence of heart or kidney disease. As the result of experiments in feeding he had not found that the theory of salt retention explained the condition. He thought that attention should be given to the supra-renals in subsequent examinations of these cases.

Infantilism Associated with Chronic Intestinal Nephritis.—Dr. LEONARD PARSONS (Birmingham) recorded a case in a girl, aged $6\frac{1}{2}$ years, whose bodily and mental development was that of a child of three years, or even younger. The clinical features were polyuria, pale urine with a trace of albumin, marked thirst and wasting. Death took place from broncho-pneumonia. At the necropsy chronic interstitial nephritis and an hypertrophied left ventricle were found. There was no history nor evidence of syphilis, but Wassermann's reaction had not been performed. Allusion was made to the similar case shown by Dr. Morley Fletcher (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 211).

Chronic Pulmonary Affections of Childhood.—Dr. S. WEST said that chronic tuberculous lesions and hæmoptysis were very rare in children before five years of age, but a few cases of chronic tuberculous cavities in children under three years had been recorded, including a case by himself in an infant, aged 6 months. He then dealt with affections due to enlarged bronchial and mediastinal glands, which were not necessarily tuberculous, though they usually were. They might cause paroxysms of dyspnoea which could be mistaken for asthma or produce considerable pressure on the bronchus going to the lower lobe and lead to collapse and bronchiectasis. He next touched on stridor and child-crowing, and then spoke of the varieties of emphysema met with in childhood. Though rare in children, true emphysema might be found in cases which had never been the subjects of chronic bronchitis, and in such cases was the result of malnutrition. The mode of production and results of collapse of the lung, were lastly discussed.

Dr. VOGT (Strassburg) laid stress on the chronic condition of infiltration of the left, less often of the right, lobe of the lung that is not rarely left behind after broncho-pneumonia and may lead to localised bronchiectasis. He thought that pulmonary diseases caused by the influenza bacillus showed a more marked tendency to chronicity than any others. Chronic pneumonia was commoner in younger children. In twenty cases in which the beginning of the disease could be accurately determined, eighteen belonged to the first six years of life, and nine to the first two years.

Dr. J. E. H. SAWYER (Birmingham) said that chronic tuberculosis of the lungs was excessively rare in children. In an examination of 10,000 children, he had diagnosed phthisis of the adult type in only eleven.

Professor STOELTZNER (Halle) dwelt on the value of thiosinamine in chronic pneumonia and related a case in a boy, aged 7 years, who in three weeks received ten injections of fibrolysin corresponding to 2 grm. of thiosinamine. The fever vanished together with the dulness, bronchial breathing and retraction of the chest, and there was great increase in the boy's weight.

Disturbances Arising from Milk Feeding in Children after the First Year.—Dr. H. VOGT (Strassburg) said that children most likely to suffer from over-feeding with milk were subjects of the exudative diathesis, which he defined as a constitutional abnormality characterised by pronounced susceptibility of the skin and mucous membranes as shown by the

development of various eruptions and liability to respiratory and gastro-intestinal catarrh. Such children should be given a mixed diet during their first year instead of a pure milk diet, and during their second year the milk diet should be reduced to a minimum and a finely minced meat diet substituted. Rickets, like the exudative diathesis, was held by many to be an inherited constitutional diathesis, the development and severity of which were largely dependent upon the method of feeding.

Breast feeding was by no means a protection against rickets. Breast-fed children with that disease often improved and gradually recovered on a mixed diet consisting of mixtures of milk and starch solution or of soups or broths containing carbohydrates. What he had said about breast feeding applied still more to cow's milk feeding.

Another deleterious effect of excessive milk feeding was that children so treated were much more susceptible than others to infection, especially to severe and fatal attacks. An exclusive milk diet also tended to produce anæmia, as milk was extremely poor in iron. Another evil effect of milk was its tendency to cause constipation. That could be best relieved by diminishing the quantity of the milk ingested and substituting carbohydrates, of which malt extract was the best.

Ætiology of Nævi.—Mr. D. C. L. FITZWILLIAMS, in a paper based on the examination of 700 cases in children, came to the following conclusions: (1) Females are more frequently attacked than males. (2) Nævi are almost always present at birth, and only comparatively few appear later, spider-marks and the more deeply seated nævi being the chief exceptions to this rule. (3) Nævi most usually start on the surface and less frequently in the deeper structures. (4) Their extension and growth are intimately connected with the nerve supply of the part. In illustration of the last point the author mentioned the frequency of nævi at situations where the nerves become cutaneous, *e. g.* at the side where the lateral cutaneous nerves are given off, and near the middle line where the anterior perforating branches come to the surface. Occasionally he had seen a scattered nævus extending round the flank like herpes zoster.

Epidemiology of Poliomyelitis.—Dr. F. E. BATTEN, in a paper illustrated with lantern-slides and diagrams, showed: (1) That poliomyelitis is an infective disease; (2) that it is an epidemic disease; (3) that it had occurred in epidemic form in the following towns and villages in Great Britain during 1910—Carlisle, Maryport, Barrow-in-Furness, Melton Mowbray, Irthlingborough, Cerne Abbas, and Tillicoultry; (4) that to diminish its incidence cases should be isolated and treated like the infective diseases. The period of incubation was probably less than six days; the period of isolation had not yet been ascertained, but should not be less than three weeks.

Oxyopathy and Uric Acid.—Professor W. STOELTZNER (Halle), after referring to his work on oxyopathy (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 191), discussed the relation between oxyopathy and uric acid. He had found that large doses of citrate of soda in cases of severe migraine and of inveterate neuralgia in gouty adult patients yielded the same satisfactory results as in the chronic phosphoric acid poisoning in children, in whom oxyopathy was as common as gout was rare.

Report on a Thousand Consecutive Cases of Scoliosis.—Mr. P. B. ROTH.—843 cases were in females, 157 in males, 86 per cent. occurred between 6 and 20 years, and 65 per cent. between 6 and 15; 276 had blood relations also suffering from scoliosis. In seven families three or more members were affected. The bad position assumed in writing, a delicate constitution, and too rapid growth were responsible for a great many cases, but in 361 cases no cause was assignable. Difference in the length of the legs occurred in 19 cases only. Pain of varying degree was met with in 440 cases. Flat-foot was found in 605 cases. Attention to dress before any treatment was essential. Treatment by posture and exercise entirely arrested the increase of bony deformity in all but 5.5 per cent., and in 3.3 per cent. slightly decreased it. In 83 per cent. a permanent practical cure was obtained.

Spinal Anæsthesia in Abdominal Surgery.—Mr. H. TYRELL GRAY said that the younger the child the more suitable was the case for spinal anæsthesia, especially in operations on the new-born for congenital abnormalities. It was in acute abdominal lesions that spinal anæsthesia was most often indicated in young children. The mechanical advantages of spinal anæsthesia were the complete muscular relaxation and absence of inhibition of the muscular activity of the intestines, which therefore did not protrude through the abdominal wound but remained comparatively collapsed.

Intussusception in children under two years with very few exceptions should be performed under spinal anæsthesia. In injuries to the abdominal viscera, spinal anæsthesia was often advisable owing to the frequent necessity for extensive exploration. In collapse from hæmorrhage spinal anæsthesia was usually contra-indicated because it was unlikely that the blood-pressure could be artificially maintained to a sufficient height to withstand the drop accompanying the necessary thoracic paralysis before the hæmorrhage had been stopped.

Treatment and Prevention of Measles.—Dr. R. MILNE described his method, which consisted in swabbing the throat with a 2 per cent. solution of carbolic oil every two hours for twenty-four hours and in inunction of the skin with eucalyptus oil morning and evening for four days, and once a day for the six days following. By this means he claimed that infection could be prevented and complications avoided.

Modifications and Extensions of Owen's Operation for Hare-lip.—Mr. F. W. GOYDER (Bradford) described his method by which improved cosmetic results could be obtained.

Royal Society of Medicine.

CLINICAL SECTION.

October the 13th, 1911.

Acute Encephalitis.—Dr. WILFRED HARRIS.—A girl, aged 13 years, was on May the 21st suddenly seized with a shivering attack, followed by severe headache, vomiting, and pyrexia. She became delirious and uncon-

scious the next day, and did not speak again for thirteen weeks. During this time she was very restless and noisy. At first she had no control over her sphincters, and later, though there was not complete incontinence, it was very difficult to keep her clean. She took her food well, but would not feed herself or help herself in any way. Kernig's sign was absent. The knee-jerks, plantar and pupil reflexes were normal. No head-retraction. Optic discs normal. Except at the onset her temperature was not raised throughout her illness. Lumbar puncture on July the 25th showed a normal cerebro-spinal fluid.

On August the 20th she first took notice of her surroundings and began to smile and speak. A few days later she was able to answer questions intelligently though in a high-pitched and squeaky voice, which has since improved though it is not yet quite normal. At the present time all her movements are extremely ataxic, and she is unable to stand or walk without support, although she has fair muscular power in her limbs. She has never had any nystagmus. Dr. Harris said that her recent condition pointed to the cerebellum as being particularly involved, but that her past history indicated a much wider area of cerebral inflammation, though the pyramidal tract seemed to have escaped. He thought that eventually there would be complete recovery.

Clinical Observations on an Epidemic of Acute Poliomyelitis in Cornwall.—DRS. ALEXANDER GREGOR and W. B. HOPPER.

Second Congress of the French Paediatric Association.

Held in Paris, October the 6th and 7th, 1911.

M. COMBY, *President.*

Ætiology, Pathology, and Pathological Anatomy of Little's Disease.—MM. HUTINEL and BABONNEIX.—*Ætiology*: The principal causes of Little's diseases are (1) obstetrical anomalies—premature birth or difficult labour at term; (2) intoxications and infections during pregnancy, among which syphilis plays a prominent part. Each of these factors may act independently, but as a rule their effects are combined. *Pathogeny*: Obstetrical anomalies entail asphyxia and trauma, leading to cerebral and meningeal hæmorrhage. The same effect is produced by intoxications and infections. *Pathological anatomy*: Apart from the cases due to disease of the spinal cord cerebral lesions are always present, and only differ from those found in other varieties of diplegia by their position. In simple cases they occupy the upper part of the Rolandic areas, while in double hemiplegia they are situated in the middle part, and in pseudo-bulbar paralysis in the lower part of the same region. The changes in the pyramidal tract consist in either a slight or a marked degree of sclerosis, and are always secondary to the cerebral lesions.

Pathological physiology: The mechanism of contractures is still obscure. The intellectual troubles depend either on affection of the frontal lobes or on diffuse cerebral lesions. Convulsions must also be attributed to the latter. Chorea-athetotic movements appear to be connected with irritation of the pyramidal tract, especially at its origin.

Symptoms and Diagnosis of Little's Disease.—M. HAUSHALTER (Nancy).—The essential character of Little's disease is a spastic rigidity predominating in the lower limbs, which is either congenital or dates from the first months of life. Mastication, deglutition and phonation may be interfered with, and the motor muscles of the eye and the sphincters may be affected. The tendon reflexes are exaggerated. Other symptoms are paralysis, mental disturbance, which is of considerable prognostic importance, and trophic troubles.

Orthopædic and Surgical Treatment of Little's disease.—M. BROCA said that one of the most important points in treatment was the mental state of the child, which might vary from actual idiocy for which nothing could be done to an almost normal condition, intermediate grades being met with which might in a certain degree receive benefit from treatment. In cases where delay in walking was the principal symptom orthopædic treatment was sufficient. In young children massage and passive movements should be employed, followed after a certain time by active movements. If such exercises were continued for years the mild and moderate cases could be cured. In more advanced cases orthopædic apparatus would be required. In extreme cases surgical intervention was necessary. The simplest method was to straighten the lower limbs rapidly under chloroform, but tenotomy and subcutaneous rupture of muscles appeared preferable. Transplantation of muscles and tendons followed by orthopædic movements had also been proposed. M. Broca was in doubt as to the value of Förster's operation.

M. MAUCLAIRE mentioned a case of inherited syphilis suffering from Little's disease whom he enabled to walk by tenotomy and muscular transplantation.

Treatment of Little's Disease by Massage.—M. KOVINDJY said that the earlier this treatment was started the more likely it was to be successful. It not only awakened the muscular tonus of the hypotonic muscles, but also acted favourably on the child's intellectual development.

Local and General Reactions to Tuberculosis.—M. PÉHU (Lyons) said that, interesting as they were, the various tuberculin methods were not rigorously specific, and that some caution was required in interpreting their results. The reactions were often positive in subjects clinically healthy. The methods, however, agreed in showing that tuberculosis, whether patent or latent, became more frequent with advancing age. Consequently the methods should be employed principally in the first four months of life; after that date their exact value would require careful examination in each individual case.

M. LEREBoullet quoted the case of a positive cuti-reaction with negative post-mortem findings in a girl, aged $2\frac{1}{2}$ years. The necropsy showed a gangrenous cavity of the upper lobe of the right lung without any trace of tuberculosis.

M. BARBIER said that the intra-dermo reaction was very marked in latent

tuberculosis, but often absent in grave or cachectic forms of the disease. Of sixteen cases of acute tuberculosis only six gave a positive reaction. Two babies in whom the reaction was negative presented tuberculous lesions post mortem. A negative intra-dermo reaction, therefore, did not eliminate tuberculosis.

MM. PAISSEAU and TIXIER had made observations on 1900 cases in M. Hutinel's wards and found that the influence of intercurrent affections, especially typhoid fever and pneumonia, was shown by an abnormal frequency of negative results, by retarded reactions, and by the reactions obtained at the end of the disease being contradictory to those at the beginning. In infants negative reactions had little value, while positive reactions, without being above criticism, constituted a presumption.

M. DUFOUR, who had been one of the first to proclaim the value of von Pirquet's method in the new-born, had, as the result of subsequent experience, abandoned the method.

M. MARFAN attributed a high value to the cuti-reaction. Out of 1600 cases he remembered only three in which he had obtained discordant results. These were two cases of athrepsia and one of rheumatism, in which, in spite of a positive reaction, he could find no trace of tuberculosis post mortem.

MM. GUINON and COMBY also testified to the value of the cuti-reaction. Out of 1500 cases M. Guinon had met with only one discordant result.

Diagnosis of Tuberculosis in the Child by the Tubercle bacillus.—M. NOBÉCOURT said that bacteriological examination or inoculation of the guinea-pig was of great assistance in the diagnosis of tuberculosis in children. Some tuberculous lesions of the skin and mucosæ, such as ulcers and warty growths, yielded numerous bacilli, while in others, such as lupus and tuberculides, the bacilli were scanty. Tuberculous ulceration of the pharynx was easy to detect, but bacterioscopy had yielded the most interesting results in latent tuberculosis of the tonsils in which tubercle bacilli were frequently found. Inoculation gave interesting results in tuberculous adenitis, acute multi-glandular abscess, glandular enlargements resembling lympho-sarcoma, and in the different forms of tuberculosis of bone. Examination for tubercle bacilli was often negative in hydrarthrosis, and it yielded no results in tuberculous rheumatism. The fluid of pleural effusion was usually tuberculous, ascitic fluid was only occasionally so. The cerebro-spinal fluid very often showed tubercle bacilli on direct examination, cultures were always positive, and inoculations were so as a rule.

Sputum from children who did not expectorate could be obtained from the pharynx, larynx, stomach or fæces, but such methods were unavailable when the lesions, as frequently happened in infancy, had not broken down. Examination of the urine was to be made as in adults. In bacillæmia, if a vein could not be punctured leeches should be employed.

Radiography and Diagnosis of Intra-articular Tuberculosis.—M. MENARD said that radiography often confirmed or corrected the diagnosis of bone or joint tuberculosis by showing the seat, form and extent of the disease and its relation to the joint. The distinction between tuberculosis and other varieties of osteitis, especially syphilitic, could be facilitated by this means.

Respiratory Troubles and Radioscopy in the Tracheo-bronchial Adenopathy of Infancy.—M. D'OELSNITZ said that this condition was

characterised by the frequency and intensity of the respiratory troubles. In most of the simple cases diagnosis could be made by radioscopy, in the more complicated, especially in enlargement of the mediastinal glands, which were difficult to distinguish from an hypertrophied thymus, a careful study of the mediothoracic shadow usually settled the question.

(*Paris Médical*, 1911, ii, p. 431; *La Presse Médicale*, 1911, xix, pp. 812 and 824.)

J. D. ROLLESTON.

Société de Pédiatrie, Paris.

June the 20th, 1911. (*Bulletin No. 6.*)

Congenital Paroxysmal Cyanosis.—MM. VARIOT and MORANCÉ showed a girl, aged 9 years, who had frequent attacks of cyanosis; during the intervals there was only slight lividity of the lips and nails. There was a loud systolic murmur to the left of the sternum at the level of the pulmonary orifice. Radioscopy and radiography showed a very small left ventricle, the right ventricle extending toward the right and the pedicle of the heart was enlarged.

Note on the Variation in the Mineral Salts of Human Milk at Different Times of the Day.—MM. BARBIER and MASCRÉ concluded that the quantity of salts did not vary in the milk during the first months, but that later their variations followed those of the albuminoid substances.

Treatment of Clubfoot by Subcutaneous Excision.—M. SAVARIAUD showed two children operated on at the ages of six months and one year by this method.

Intussusception.—MM. TRIBOULET and SAVARIAUD reported the case of a boy, aged 9 years, operated on for abdominal pain with diarrhoea of a chronic or subacute course with acute exacerbations and vomiting. The diagnosis was only made on palpating the typical tumour. There were no muco-sanguineous stools.

Spasm of the Glottis, the only Sign of Tetany.—MM. TRIBOULET and HARVIER reported the case of a child, aged 13 months, who died of spasm of the glottis, which was the only sign of the existence of tetany and was not accompanied by any other manifestation of nervous hyperexcitability; both Trousseau's and Chvostek's signs were absent. The electrical reactions were those of tetany. The thymus was normal, weighing 10 grammes.

Laryngostomy in Cicatricial Crico-tracheal Stenosis.—M. GUISEZ showed two children he had operated on and whose respiration and phonation were normal. He also showed two children whom he had cured of stenosis of the œsophagus by dilatation by means of the œsophagoscope.

Anasarca in an Infant of Two Months without Renal Lesions.—MM. P. NOBÉCOURT and PAISSEAU reported the case of a girl, aged 2 months, brought to the hospital with general œdema which did not yield to treatment. The autopsy showed the kidneys absolutely normal, but the liver was fatty to a marked degree.

Pneumococcal Abscess of One Lung.—M. GUINON showed a specimen from a boy, aged $4\frac{1}{2}$ years, admitted in a condition of collapse, with cough and discharge from one ear. The right chest was dull on percussion, and there was tubular breathing with coarse râles. Abscesses were found strictly limited to the upper lobe of the right lung. The pus contained Gram-positive diplococci.

Combined Tuberculous and Meningococcic Meningitis.—MM. L. GUINON and H. GRENET reported the case of a girl, aged 8 years, whose illness developed like a cerebro-spinal meningitis and the diagnosis of tubercle was only made at the autopsy. The variations in the character of the cerebro-spinal fluid were interesting, the lymphocytosis of the onset giving way to a polynucleosis.

Hypertrophy of Thymus and Tracheo-bronchial Adenopathy.—M. D'ELSNITZ reported a number of cases and showed the radiograms (which are figured in the 'Bulletin') for comparison. In normal cases the mediastinal shadow has the form of a flagon with a long neck narrowed at its middle. In hypertrophy of the thymus the shadow is widened in its upper part and disfigured owing to the suppression of the narrowed neck, but, as in normal cases, the shadow is homogeneous, the outline clear and definite. In tracheo-bronchial adenopathy the shadow at its upper part is of normal width and presents the narrowing at its middle; below the shadow is normal but deformed by the addition of superadded shadows, chiefly to the right; the homogeneity is also affected.

Three Cases of Tuberculous Rheumatism.—Dr. S. VERAS, of Smyrna, reported cases aged 9, 9, and 15 years. In the first, a swelling of the fifth right metatarso-phalangeal articulation led to the diagnosis of osteoarthritis and the joint was fixed by a silicate apparatus. This was in a short time followed by slight ankylosis necessitating massage, whereas a similar condition in the left foot ended in complete and rapid recovery without such treatment. In the second case there was swelling of one costo-sternal articulation and also over the fifth and sixth dorsal vertebræ. The latter was completely cured after only six months of fixation, and the author considered it tuberculous rheumatism of the vertebral column and not Pott's disease. The cuti-reaction was positive in this case. In the third case there was pain suggestive of coxalgia, but cure was effected by a partial fixation for a few months, thus proving it to be a tuberculous rheumatism of the hip-joint, the time and means being insufficient to effect a cure had it been a true coxalgia.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Breast-feeding: The value of the test-feed (*Lancet*, 1911, II, p. 677).—**E. Pritchard, H. R. Carter, and W. O. Pitt** publish some very interesting figures concerning the quantities of milk taken in breast-feeding. The term "test-feed" is not here applied to a feed given in order to obtain a sample of gastric juice for analysis, but to a feed given in the ordinary way in order to ascertain the exact amount of milk obtained by the infant from the breast. This figure is reached by weighing the baby accurately before and after it is put to the breast. Special scales were employed. The account is of particular interest, as it gives us the first data from work done and published in this country. The authors compare their results with those of continental observers. By a series of tables various points are well brought out. The first gives measurements of all the feeds in twenty-four hours in a small series of private cases. Here the variations were found to be slight except in the case of the early morning feed, which was invariably the largest of any in the whole day. Table II gives the amounts of milk consumed by nurslings daily during the first ten days of life—an interesting table based upon 9435 tests in 61 cases. Table III shows in greater detail the variations for the first twenty-four days of life. Again, the average amount of milk consumed in twenty-four hours by nurslings up to the age of eight months is shown—differences occurring in the cases of sick out-patients and healthier infants in infirmaries and infant consultations. The authors find that no reliance can be placed on the quantity of milk consumed as a criterion of the progress to be expected of the infant. Remarkable progress was made in many cases where small amounts of milk were taken, and lack of progress was observed frequently where the milk supply was abundant.

REGINALD MILLER.

Infant feeding in Germany (*Guy's Hosp. Gaz.*, 1911, xxv, p. 131).—**H. C. Cameron**, writing from Finkelstein's clinic in Berlin, points out what he considers to be some fundamental differences between German and English methods of infant feeding. He says that whilst in England the proteid is regarded as the chief difficulty, in Germany it is considered the most innocuous element of milk and the most easily and completely digested. Consequently it is usual there to give for a time the so-called proteid (Eiweiss) milk—cow's milk so modified that it contains twice the amount of casein and about half the amount of fat, sugar and salts. Daily weighing is employed in the case of all artificially fed infants, and the weights are recorded upon a chart side by side with the temperature curve. Below these is a record of the amount of food which the infant has had in the twenty-four hours and its composition. The author then differentiates certain types of disorder and gives the treatment for each. By dyspepsia is meant slight digestive disturbance associated with vomiting and an increase in the number and character of the stools, which are often watery, green and slimy, but without serious loss in weight or much alteration in the temperature chart. In these cases he says it is often sufficient to omit the added sugar to the milk. In more serious cases, for twenty-four hours the infant is allowed only saccharin-sweetened water or very weak tea, followed later by diluted milk to which sugar is gradually increased daily.

By the term *Milchnährschaden* he understands the condition especially studied by Czerny and Keller. The weight curve shows a more gradual increase in weight than normal, often varying daily. The child is small, pale and feeble, and liable to infections. The temperature is approximately normal, and the stools are bulky, and grey in colour. There is no evidence of deficient absorption, but only of disturbance of balance of the calcium and magnesium salts, which are passed in excess, forming soaps with the fat in the stools. The treatment consists in diminishing the amount of fat and increasing the carbohydrates. *Carbohydrate food disturbances (Mehlnährschaden)* due to excess of carbohydrate are chiefly distinguishable by the retention of water in the body which results. The weight at first increases and then comes to a standstill. Hypertonus is common. The appearance resembles that of Bright's disease. There is nothing characteristic about the stools or the temperature. Treatment consists in the substitution very gradually of diluted cow's milk for a part of the carbohydrate food. In the two other forms of disturbance—*intoxication* (cholera infantum) and *decomposition* (marasmus), there is, he considers, no especial difference from English methods in the treatment except in the frequent employment of proteid-milk.

FREDERICK LANGMEAD.

The feeding of babies with undiluted citrated milk (*Guy's Hospital Gazette*, 1911, xxv, p. 154).—H. C. Mann gives an interesting account of his experience of the routine feeding of infants on citrated whole-milk, which he has practised for the past three years. During this period some 400 cases requiring directions in feeding have passed through his hands, and in only half a dozen instances has he been obliged to adopt any modification of the whole-milk *regime*. Such an experience is a strong testimony to the value of this method of artificial feeding, a method which, owing to its simplicity and cleanliness, is conspicuously suited to hospital practice. Dr. Mann proceeds to give the weight records in eighty-nine cases, in each of which there had been loss of weight on other diets. Throughout his work the author has made use of sodium citrate in the proportion of one grain of the drug to each ounce of undiluted milk—half the dose, that is to say, that has been employed by most who have made use of citrated milk, whether whole or diluted. In stating that he knows of "no other published series of cases in which undiluted milk has been universally employed," the author has overlooked Dr. F. S. Langmead's paper in vol. iii of the *Proc. Roy. Soc. Med.* on "eighty consecutive cases of wasting infants fed on undiluted citrated milk" (*vide BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, vii, p. 219). Dr. Langmead, who, we believe, was the first to point out the value of citrated whole-milk in infant feeding, published his first paper in March, 1908.

REGINALD MILLER.

The use of homogenised milk (*La Clin. Infant.*, 1911, ix, p. 449).—G. Variot and Lavialle state that the best method is one which fulfils the following conditions: (1) Pasteurisation of the milk and homogenisation immediately after drawing; (2) the use of aseptic apparatus; (3) the conduct of manipulations under cover; (4) sterilisation of the product at 108° for forty-five minutes in perfectly closed vessels. This process prevents the development of bacteria, oxidation, fermentations of all kinds, the production of toxins imperfectly destroyed by heating, and ensures preservation. The authors have obtained excellent results from a milk of this kind; its advantages are incontestable, and it is illogical to discard its

use for the sake of the small risk of infantile scurvy, which is easy to avoid by being careful not to prolong unduly the exclusive use of such milk and to end the period of feeding by giving ordinary sterilised milk. Such milk should be considered medicinal and used in this way. It must also be borne in mind that the cases of infantile scurvy which have undoubtedly some relation to the use of homogenised milks are very few in number when the large number of infants taking the milk is taken into account. The lasting homogeneity, the lightness of the coagulum, the syntonisation of the casein, the minute splitting up of the fat-globules, the stimulus to gastric digestion, the rapid passage through the pylorus and the excellent results obtained in thousands of weak, atrophic, hypotrophic and rachitic nurslings amply justify its employment. It should be regarded as a valuable therapeutic agent, which can in large measure take the place of human milk.

VINCENT DICKINSON.

Galactorrhœa in asymmetry of breasts (*La Clin. Infant.*, 1911, ix, p. 322).—**G. Variot**, from a series of twenty cases in wet-nurses, finds that physiological galactorrhœa, both in lacteal engorgement and after suckling, is more pronounced in the less developed breast when there is marked asymmetry of the mammary glands. This anomaly is not due to any special fluidity of milk secreted by the smaller breast, since analyses made by Lassablière tend to prove that on the contrary the milk is richer in fat and of better quality on the side where the gland is smaller. It is probable that galactorrhœa in these circumstances is due to an atony of the muscular fibres of the breast which play the part of sphincter for the orifices of the milk-channels. This muscular condition is perhaps less developed because the breast is less often stimulated by suction.

VINCENT DICKINSON.

Disturbances caused by hypoalimentation in infants (*La Clin. Infant.*, 1911, ix, p. 329).—**Mlle. E. Vigor** in her thesis describes the following degrees of intensity: (1) Hypoalimentation causing simply arrest of growth. The characteristic clinical picture was that of thin shrunken children, crying day and night, and sucking the fingers. Weight and height sub-normal. (2) Arrest of growth followed by transitory gastro-intestinal disturbance, disproportion between increase of weight and height, false constipation, with scanty mucous stools, sometimes alternating with diarrhœa, dyspepsia, and vomiting which is aggravated by withholding food. (3) Hypoalimentation with continued gastro-intestinal disturbance. The diagnosis is often difficult. The vomiting persists notwithstanding the increase in food given for weeks and even for months. The body-weight, however, increases steadily, the intestinal functions are normal, and the general condition good. In such cases if the food be not increased a condition like the arthrepsy described by Parrot rapidly supervenes. If over-feeding be eliminated there is only one symptom which can vitiate the diagnosis, *i.e.* vomiting, which may be equally caused by toxicity of milk, pyloro-spasm, stenosis of the pylorus, or by excessive ærophagy and anaphylaxis. As to treatment the authoress admitted the figures of Heubner: the ration should be $\frac{1}{6}$ the weight during the first months, $\frac{1}{7}$ during the following three months, and $\frac{1}{8}$ afterwards. Weak infants require a higher ration, $\frac{1}{5}$ or even $\frac{1}{4}$ of the weight. With breast-fed infants the feeds must be weighed, and if insufficient the infant should be suckled from both breasts at each feed.

VINCENT DICKINSON.

Vomiting in infancy (*Ann. de Méd. et Chir. Inf.*, 1911, xv, p. 305).—**Périer and Gaujoux** consider this subject under two headings: (1) Vomiting in sucklings; (2) vomiting in children in the second or third year of life. In the former the vomiting may be due to hyperalimentation, hypoalimentation, and other causes as in older children. In the second category the vomiting may be associated with or without pyrexia. In the former case the vomiting may usher in one of the infectious fevers, or be due to gastric troubles, or the administration of certain drugs, as antipyrin, aspirin, etc. In vomiting, with little or no pyrexia, it is necessary to note if it is preceded or not by coughing. Vomiting in this case may be due to pertussis, dry pharyngitis, enlargement of the tracheo-bronchial glands, simple bronchitis, bronchiectasis or purulent pleurisy. Vomiting, connected neither with fever nor cough, results from irritation of the gastric mucous membrane, either by irritants, emetics, or indigestible food. The commonest cause of vomiting is due to the digestive tract, or the nervous system. The authors devote a short paragraph to hæmatemesis in infancy. This is very rare, and may be due to epistaxis, gastric, and duodenal ulcer, or so-called temporary hæmophilia, hæmorrhagic syphilis, scorbutus, and purpura.

F. R. B. ATKINSON.

Estimation of chlorides in the stomach contents of infants (*Arch. of Int. Med.*, December 1910. *Abstr. Journ. A.M.A.*).—**Wentworth** has endeavoured to discover whether or not the hydrochloric acid of the gastric juice is diminished in cases of infantile atrophy. In the first series the stomach contents were obtained one hour after eating, from a number of atrophic infants fed on mixtures of cow's milk. The results showed a diminished amount of hydrochloric acid in every case. Similar experiments with well-nourished and apparently healthy infants gave variable results. In some cases the HCl was greater and in others approximated to that found in atrophic infants. In a second series rarely more than a trace of HCl was found in the stomach contents from atrophic infants, while a diminished amount was observed in well-nourished children, the diminution corresponding closely to that found in about one half of the atrophic, but being never so extreme as that found in the other half. Examination conducted in the same atrophic infants at different periods after eating rarely showed any marked variation in the quantity of HCl present. The author does not believe that a marked diminution of HCl is an essential factor in the production of infantile atrophy. On the other hand, there is considerable evidence that it is possible for atrophic infants to gain rapidly in weight and yet produce little HCl in the gastric juice. This appears to show that the quantity of HCl in the gastric juice is not an important factor in recovery from infantile atrophy.

T. R. WHIPHAM.

Abdominal distension in infants (*La Clin. Inf.*, 1911, ix, p. 161).—**Drs. Variot, Barret, and Lavialle** read a paper on this subject before the Soc. Méd. des Hôp., based on radiologic exploration and chemical analysis in cases of hypo-alimentation with aëroplagy. M. Barret has contrived a special support consisting of a wooden frame, which enables the infants to be examined in the vertical posture. The use of bismuth is unnecessary. The colon, when it contains gas, is visible in nearly every part; it has the appearance of wide, clear zones, segmented by dark lines corresponding to folds in its walls. The

presence of these clear zones allows the lower border of the liver to be clearly seen. To differentiate the stomach and colon and define their reciprocal relations it is enough to introduce a certain quantity of milk into the gastric cavity. The stomach outline then becomes visible, and, in order to follow its full extent, it is helpful to incline the infant so that the fluid is displaced along the gastric walls. By this manoeuvre, practised by examining in a lateral position, the precise relations of the stomach and transverse colon can be made out. In a certain number of cases it is plain that besides the distension of the transverse colon, the tumefaction of the liver plays an important part in the formation of the barrel-shaped abdomen. In exceptional cases, in extremely atrophic infants with chronic gastro-enteritis, the whole abdomen may be transparent; not only the colon, but also the small intestines are distended with gas. The authors consider that their observations on a hundred infants prove that in the majority of cases distension of the abdomen is caused by gaseous inflation of the large intestine. In four normal infants the composition of the intestinal gas was found to be pure nitrogen; in twelve cases of distension it was nitrogen with a small quantity of oxygen; in cases with intestinal infections there was also carbonic acid and hydrogen, *i. e.* products of butyric fermentation. There seems to be no relation between the large volume of gas and the absorption of starchy foods, but the nitrogen contained in the intestinal gases may be partially derived from intestinal fermentation. The authors believe that the origin of the gas is in the air swallowed either while sucking the fingers or the teat; they have distinctly seen on the screen the stomach of an infant distended with air while sucking at an imperforate teat. It is highly probable that in *ærophagic* infants a certain quantity of air, at the time of evacuation of the stomach contents, passes into the small intestine, and finds its way with the chyme as far as the large intestine, where it is stored up under a certain pressure, retained on the one hand by the anal sphincter and on the other by Bauhin's valve. Not all underfed nurslings, however, are *ærophagic*, nor have abdominal distension; the same condition may be present in the overfed; but it would be a grave mistake to consider all infants with distended abdomens as overfed, and to treat them as such by reducing their ration of food, when in reality it should be increased.

VINCENT DICKINSON.

Affections of the suckling due to maternal causes (*Riv. di Clin. Pediat.*, 1910, VIII, p. 889).—**C. Francioni** relates the case of a boy, aged 23 days, admitted for convulsive attacks. He was born asphyxiated owing to shoulder presentation and subsequently developed intense jaundice. For the first few days he took the breast unsatisfactorily owing to the small size of the mother's nipples, but afterwards this was rectified. The first convulsive attack, tonic in character, occurred when a week old, and was unaccompanied by any digestive disturbance. A second attack occurred on the twentieth day and the third on the twenty-third. In the intervals the infant seemed well except for the icteric tint and somnolence on the days following the convulsive attacks. The urine was rather dark coloured but contained neither albumin, indican, sugar nor bile-pigment, but to the spectroscope there was a faint indication of urobilin. The *fæces* were normal and markedly coloured with bile-pigment. In the absence of sufficient cause for the convulsions in the child the author thoroughly investigated the mother's health, which was apparently sound. With a history of repeated abortions and premature births, and in the absence of all suspicion of syphilis, the

possibility of a chronic nephritis suggested itself. Repeated examination of the urine showed signs of renal insufficiency, in addition to which there were present cardiac hypertrophy, accentuation of the second aortic sound, hypertension of pulse and œdema of the lower limbs. As a proof of the theory that toxins were transmitted through the mother's milk, the infant did not improve until suckled by another woman.

VINCENT DICKINSON.

Nutrition neuroses in early childhood (*'Berlin. klin. Wochens.,'* October 3, 1910. *Abst. Journ. A.M.A.*).—**Hochsinger** followed the development of the neurosis in five cases. The mothers were all hysterical and the surroundings were neuropathic. The children developed well during the first few months, but were constantly overfed, with the result that dyspepsia ensued. The overfeeding resulted in actual distaste for all food. Nervous anorexia is liable to develop when the child is weaned, and traces persist with a tendency to vomit readily and inability to chew solid food for many years. The only thing to do is to remove the child for a time from the home environment, and to allow food only when he is hungry. In one case, a boy, aged 7 years, vomited at every meal during the first week after removal. Having had soft foods he was unable to chew, and did not learn to do so for two months. He was still a nervous, dystrophic child and a poor eater. With neuropathic parents stress must be laid upon proper intervals between the feedings, and above all, when the child is weaned food should not be forced upon him until he is hungry.

T. R. WHIPHAM.

The proper management of foundlings and neglected infants (*'Med. Record,'* 1911, i, p. 283).—**H. Dwight Chapin** points out the high mortality among infants who are kept in large institutions, and says that even in hospital cases where institutional treatment is necessary, the infants should be removed at the onset of convalescence and kept under observation in their homes, or if these are unsuitable, elsewhere. In the case of foundlings and neglected infants he advocates a "boarding out" system, with a systematic plan of constant supervision by some competent authority. He proposes that the large asylums and institutions for the care of these babies be abolished and replaced by small collecting stations. These should act merely as clearing houses, where the infant's condition may be studied for a day or two, and its diet adjusted, and from which it may be boarded out in the vicinity, where it can be under constant oversight and regulation by a doctor and a nurse furnished by the station. Dr. Chapin has tested this method practically since 1902. To try and save this class of infant the Speedwell Society was formed and the children were boarded out at Morristown, N. J. The following features were emphasised: (1) Boarding out in a certain district of the country noted for its healthy conditions; (2) constant attention to diet and hygiene by the doctor and nurses, who are familiar with this class of cases and competent to deal with them; (3) the infants are kept as long as necessary, until feeding is regulated and digestion and assimilation are improved sufficiently to result in an increase in weight. The work is kept up during the whole year; (4) The training up in a given neighbourhood of a number of foster-mothers, who, by taking these infants into their homes, become fairly expert in handling them under conditions totally unlike those offered by the best institutions and far superior to them. From March 19, 1902, to January 1, 1911, 1386 children have been received, of whom 501 were under two years old. Of 241 received

under six months of age, 91 died; of 120 received between six months and one year old, 22 died; and of 140 received between the ages of one and two years, 6 died. There was only one death among 885 infants received over two years of age. It is safe to say that nearly all the younger infants would have died if kept in an institution. The infants are kept until they are essentially improved, the average stay being four months; many are kept longer. During the eight years' continuous work 70 families have been given babies to board. Some of these foster-mothers have been very successful others tire and are dropped because of inefficiency. From 15 to 20 families are usually employed, and some of the most capable foster-mothers are given two infants. Only 33 infants have been returned unimproved. The plan has proved to be economically sound as well as practically efficient.

FREDERICK LANGMEAD.

Guidance and protection of children by the State (*New York Med. Journ.*, 1911, I, p. 1282).—**J. Rosenberg.**—In New York, families cannot exist on less than twelve dollars a week; several are living on six or less. In consequence, 42 per cent. of the 1,500,000 deaths are due to preventable causes: 150,000 die yearly of tuberculosis. One sixth of all American children die before they are a year old, and one fourth before they are five years old; 10,000 die from whooping-cough, and 22,000 from diphtheria. The writer regards institution life for children as unsatisfactory, and the number of children which can be adopted into good families is very limited. He recommends that colonies should be established on sites of 1000 acres, and houses built to the number of twelve per acre—in short, a garden city. The children are to be cared for by competent adults specially selected for this purpose, or by their own parents, who would live rent free. Wherever possible the money should be recovered from the parents.

CHRISTOPHER ROLLESTON.

Anterior poliomyelitis (*New York Med. Journ.*, 1911, I, p. 721).—**I. D. Steinhardt** goes very fully into this subject in a lecture delivered at Pittsfield, Mass., considering its ætiology, pathology, symptoms, diagnosis, prognosis, and treatment. The article is too long to be reviewed, and should be studied from the original by those interested in the subject.

F. R. B. ATKINSON.

Acute poliomyelitis (*Mont. Med. Journ.*, 1910, xxxix, p. 456).—**Russel** gives the details of an epidemic which occurred in Montreal in the summer and autumn of 1909. He saw 38 cases, of which 25 were between the ages of one and five, and 8 between six and ten. The sexes were practically equal. Most of the cases came from overcrowded districts where cleanliness was uncommon. In the majority of cases there were slight prodromal symptoms, which lasted on an average little over two days before the onset of the paralysis, such as headache, general malaise, or vomiting. Convulsions occurred in only three cases. The spinal form of the disease was by far the most common; the pons and medulla were affected in three cases. In three cases the muscles never lost their reaction to the Faradic current and there was a perfect return of function in six weeks. In the majority of cases there was a marked improvement in the paralysis in the first ten days, but afterwards the improvement was much slower and depended greatly upon treatment. Many cases which were carefully treated by massage and electricity improved to a much greater extent than was expected.

J. PORTER PARKINSON.

The ætiology of epidemic poliomyelitis and its possible relation to beri-beri (*Med. Record*, 1911, I, p. 1095).—**O. V. Huffman** gives a short account of various epidemics of the former disease, and draws attention to the similarity of the symptoms of acute poliomyelitis, multiple neuritis, and beri-beri. He considers that the causative factors in these three diseases may be the same, and also that the diseases themselves may be more or less identical. The writer still holds to the view now generally abandoned that beri-beri is associated with a diet of rice.

F. R. B. ATKINSON.

The manifestations of the acute stage of poliomyelitis in children (*Amer. Journ. Obstet.*, 1911, LXIII, p. 751).—**Le Grand Kerr**.—In all the infections of childhood the symptomatology is distinctly seasonal and varies with each particular epidemic, and especially with the type of child affected. The manifestations may be divided into three periods: the period of onset, of paralysis, and of retrogression. The symptomatology of the period of onset may present the variability of three rather distinct types: (a) Acute indefinite illness of two or three days' duration, with symptoms of fever, diarrhoea, vomiting, followed by paralysis with other symptoms which need no particular comment, or with a prolongation of the same symptoms for several days. (b) The nervous phenomena are so prominent as to make one suspicious of a cerebral rather than a spinal affection. (c) Onset with apparent suddenness which is probably more apparent than real. Most of these cases probably terminate fatally before an accurate diagnosis can be made, and are often reported as cases of meningitis when the real condition present is an involvement of the cervical portion of the cord. *An insidious onset without any serious general manifestations is the rarest type of onset in children. It is extremely doubtful if the disease ever occurs in foetal life. Irrespective of the weather conditions which prevail and which have no influence that can be determined, the disease is one that is somewhat strictly limited to the late summer. There has been a decided tendency in earlier epidemics to attribute the prodromal symptoms to some intercurrent disease, and to consider the onset of the paralysis as the onset of the disease. This is not so. Recent pathological work seems to prove that the first onset of widespread paralysis is due largely to oedematous pressure in the cord, and that it follows one or more days of indefinite symptoms. As the oedema subsides the paralysis is decreased, and any permanent disability in the musculature is due to the destruction of some of the nerve-ganglia. There is a preponderance of gastro-enteric symptoms in the onset of the disease. This may have suggested that the disease finds its inception in the digestive tract. But we must bear in mind that in all of the acute infections of children similar symptoms are the rule.

J. HOWELL EVANS.

A case of abortive poliomyelitis (*Med. Record*, 1911, II, p. 129).—**R. Stein** reports the recognition of one of these important cases, so difficult to diagnose in the absence of an epidemic of poliomyelitis. A child aged 6 years was taken ill in September with acute diarrhoea and drowsiness developing into unconsciousness. Opisthotonos, delirium and restlessness became marked but no paralytic or paretic symptoms appeared. The cerebro-spinal fluid on the third day of illness is reported as clear and under moderate pressure. A diagnosis was made of acute dysentery and meningismus—a very rare combination. Rapid recovery ensued, the child being discharged well in a fortnight. Later the possibility of an abortive case of

poliomyelitis was considered, and six weeks after the illness, at the request of the author, Flexner subjected the patient's blood to his neutralisation test (*Journ. Amer. Med. Assoc.*, LXVI, No. 8). This showed a positive reaction, and in the absence of any previous attack of poliomyelitis it was inferred that the illness noted had been an abortive example of that infection.

REGINALD MILLER.

Transitory spinal paralysis in children (*Riv. di Clin. Pediat.*, 1911, ix, p. 564).—**A. Filè-Bonazzola** describes seven cases of infantile paralysis which lasted from a few days to a few weeks and resulted in recovery without treatment. The cases were confined to a short period, from May to August, in one year. The age of the children varied from six to twenty-one months. Four were males and three females. All the cases began with fever; in four there was acute gastric catarrh; two cases had convulsions. In all there was tenderness in the affected limbs. The duration of the paralysis was from eight to twenty-two days.

VINCENT DICKINSON.

An unusual case of infantile paralysis (*New York Med. Journ.*, 1911, i, p. 626).—**H. G. Harris** describes a doubtful case of this disease ushered in by convulsions. The case did not follow the usual course, and on the fourth day colon bacilli were found in the urine and signs of meningitis showed themselves. Hexamethylene, 2 gr. *t.i.d.* was ordered. On the sixth day tetanoid spasms appeared, and the blood count pointed to some inflammatory condition. On the ninth day lumbar puncture was performed and immediately relief was experienced. Signs of paralysis appeared on the tenth day and disappeared a week later, the child ultimately recovering. The writer suggests that the colon bacillus may cause symptoms of tetany, poliomyelitis or meningitis.

F. R. B. ATKINSON.

Herpes zoster, acute poliomyelitis, and zinc phosphide (*Med. Record.*, 1911, i, p. 958).—**W. F. Waugh** finds that phosphide of zinc in doses not exceeding a centigramme for an adult one hour before meals is a certain remedy for herpes zoster, and throws out the suggestion that as zoster is a malady affecting the posterior spinal roots, the same drug might act beneficially in disease of the anterior spinal roots and should be tried in acute anterior poliomyelitis.

F. R. B. ATKINSON.

The prevention of epidemics of infantile paralysis (*Med. Record.*, 1911, ii, p. 259).—**M. Allen Starr** regarded it as certain that the infectious material of poliomyelitis exists in the secretions of the nose and throat of the patient, and holds it probable that it is through the inhalation of infectious particles which lodge in the mucous membranes of the throat and nose that the infection enters the system. For prophylactic measures he recommends first the strict isolation of the patient; second, the disinfection of the nasal and buccal cavities of the patient by means of sprays and gargles of Dobell's solution or a solution of boracic acid; third, the employment of similar measures in the case of all those in contact with the patient and the prophylactic administration of urotropine internally. Disinfection of the patient should be continued for at least three months. The remainder of the paper is concerned with the early diagnosis of the condition, which enables the practitioner to undertake preventive measures

for the safety of those in contact with the patient, and to administer to the patient urotropin with a view to lessening or even aborting the paralytic symptoms.

REGINALD MILLEE.

Epidemic infantile paralysis and its control by the State authorities (*Amer. Journ. Obstet.*, 1911, LXIII, p. 703).—**B. Sachs.**—After reference to numerous proved epidemics and the particular findings of Flexner in his work at the Rockefeller Institute, the writer asks these two questions of paramount importance: Is the infectious character of the disease positively established? How is the disease communicated from person to person, and can the spreading of the disease be checked or controlled? In a general way the epidemic occurrence of this disease is sufficient to prove its infectious or contagious character. The occurrence of several cases in one and the same family, or in one and the same house, and the massing of cases in certain districts of the same city, are also sufficient proof of the infectious character of the disease. In the study of the disease as it occurred in Sweden it was shown that the schoolhouse appeared to be the most prolific source of infection. The attempt to prove for New York City the exact way in which the epidemic originated or spread has been unsuccessful. All doubt as to the infectious nature of the disease has been removed by the experimental investigations of Flexner. The virus is conveyed by some extremely minute and filterable organism, the life history of which has not yet definitely been established. It has now been established that in suspected cases an early examination of the cerebro-spinal fluid, gained by tapping the spinal canal, will throw light upon the acute character of the infection. This examination should be made by trained physicians, and in this work the State authorities should lend a helping hand. In answer to the second question as to the manner in which the disease is carried from person to person only a few facts are known. It is definitely established that the disease is not violently infectious or contagious, for during an epidemic occurrence of the disease children afflicted with the disease were kept in general hospital wards, and not a single one of the other inmates of the wards of the hospital was afflicted with the disease. It is very possible that in this disease, as in other infectious diseases, apparently healthy persons may be the carriers of the disease. So far as any evidence has been gathered, there is some reason to believe that the organisms carrying the infection remain for a long time in the nose and throat of the affected individual. It thereby becomes incumbent upon physicians during the time of an epidemic to pay special attention to the nose and throat of children, and the question is whether the medical officers visiting our public schools should in such times give directions for the general and frequent disinfection of children's throats. Such precautionary measures may not find immediate acceptance but will in time have to be adopted, and if adopted will prove beneficial. The State authorities can assist in combating the disease by considering the manner in which the disease spreads from town to town. With the first announcement of an epidemic or the suspicion of it, thoroughly trained men should be sent to the infected district to do the necessary work. Laboratories of appeal should be instituted for corroboration of an early diagnosis in all suspected cases. Instructions should be issued by health officers with regard to notification and isolation. Though fatal cases are exceptional, mild ones are more numerous than previously suspected, and those of moderate severity can be considerably improved by patient and diligent treatment.

J. HOWELL EVANS.

Alcoholic neuritis in children (*Corresp.-Blatt. f. Schweiz. Aerzt.*, October 10, 1910. Abst. *Journ. A.M.A.*).—**Eichhorst** reports amongst others the case of a boy, aged 8 years, who for two years had had pains in the lumbar region and increasing weakness in the muscles of the leg and back. The case was thought to be one of progressive pseudo-hypertrophy of the muscles, but the discovery that the boy stole out of bed to drink the alcohol in the lamps, etc., cleared up the diagnosis, and under baths, massage and potassium iodide he was restored to health in a few months. The kneejerks were active throughout, and there was no pain, tenderness, or paræsthesia. Accumulation of fat occurred in the leg and lumbar muscles and there was some fibrillary twitching in the arms. The patient's father was a hard drinker.

T. R. WHIPHAM.

The nature and treatment of chorea (*Bristol Med.-Chir. Journ.*, 1911, xxix, p. 51).—**Carey F. Coombs**, in an interesting paper, discusses this disease at some length. The following is a summary of his conclusions: (1) Sydenham's chorea is a manifestation of rheumatic infection. (2) It is an organic disease of the brain, attacking all parts of the cortex equally and impartially, but affecting the basal grey matter less severely. (3) Consequently the symptoms are not only motor, but also psychical and sometimes sensory. (4) The motor symptoms are partly due to loss of inhibition, partly to cortical irritation. (5) In chorea the fallacy of the distinction between "functional" and organic nervous disease is exemplified. (6) Chorea can be fatal without the occurrence of meningeal inflammation. (7) This fact, with the phenomena of latent chorea, suggests that chorea may be due to direct intoxication rather than gross infection of the cranial contents. (8) The tendency of chorea is towards restoration of health to the brain. (9) Treatment consists of (a) removal of the cause—active rheumatic infection—by rest in bed with administration of salicylates during the active stages; (b) prolonged mental and bodily rest during convalescence; (c) improvement of general health by fresh air, full diet and tonics; (d) quieting of excessive movement by sedative drugs or packs and cure of paresis by massage. (10) The full-dose arsenical treatment is useless. (11) Chloretone is only useful in certain cases, and should not be given as a routine measure.

J. ALLAN.

Causes and remedies of criminality in childhood (*Arch. de Méd. des Enfants*, 1911, xiv, p. 497).—**H. Dauchez**.—Criminality in childhood is on the increase. In 1904 in Russia there were twenty suicides among children; in 1909, 449. In France, of 1000 crimes against the person, 168 were committed by minors, and of 1000 thefts, 186 by individuals of 20 years of age and under. 51,033 women were arrested as street walkers, of whom 9,723 were girls under the age of 20. According to the author, criminals are made, not born. Apart from children obviously abnormal, such idiots, as kleptomaniacs, and pyromaniacs, juvenile delinquents are responsible, and must be held responsible, even when they act in fits of temper or lust. The evil effect of bad surroundings is admitted—14 per cent. had good homes, 85 per cent. bad. The bad effects of heredity are mentioned, but the author endeavours to minimise them, and instances cases of normal children born to deaf-mutes. The present-day factory, the breaking-up of the apprenticeship system, and the depopulation of agricultural districts, are responsible for much of this trouble. The author concludes by declaring that redemption is nearly always possible if suitable educative methods are adopted.

CHRISTOPHER ROLLESTON.

Pathology.

Hæmolytic action of certain streptococci isolated from cases of scarlatina ('*La Pediat.*' 1911, xix, p. 578).—**M. Mitra** finds that streptococci isolated from scarlatina cases present the same morphological and cultural characters as *Streptococcus pyogenes*. Those isolated from various tissues affected have a distinctly hæmolytic action. The strepto-hæmolysins of these germs are for the most part thermostabile, resisting a temperature of 65° C. for more than half an hour; some, however, do not. The hæmolysins are made by the bacterial cultures and are stored up in the bacterial bodies; they do not pass into the culture media, or only to a very limited extent. The hæmolytic property is not equally intense in all strains isolated from scarlatina cases, although those which have it most are often found in close proximity to those which have it least.

VINCENT DICKINSON.

The blood in pertussis ('*Cleveland Med. Journ.*' 1911, x, p. 571).—**N. P. McGay** examined 138 cases with the following results. All showed a leucocytosis with a marked increase in the lymphocytes. Cases with a low leucocyte count showed a relatively high lymphocytosis and a marked decrease of polymorphonuclears. Such cases had apparently a much milder attack than cases showing a high leucocytosis with an increase of polymorphonuclears and a decrease in lymphocytes. In 120 cases a diagnosis was made from the lympho-leucocytosis, and was invariably confirmed by the clinical symptoms in from ten days to two weeks.

J. D. ROLLESTON.

The anti-infectious power of the blood of infants ('*Journ. of Infectious Dis.*' October 25, 1910. *Abst. Journ. A.M.A.*').—**Tunncliffe's** experiments show that at birth the opsonic power of the blood-serum towards streptococci, pneumococci, and staphylococci is a little less than that of adult serum. During the first months of life it falls, and does not reach the opsonic power of the adult until about the second year. The phagocytic activity of the leucocytes towards the organisms mentioned follows a similar course, not reaching that of the adult until the third year. During the first and second years of life the anti-infectious power of the blood, as measured by the opsonic power of the serum and the phagocytic power of the leucocytes, is far below that of adult blood.

T. R. WHIPHAM.

Anatomical condition of the stomach in a suckling five months after cure of pyloric stenosis ('*Jahrb. f. Kinderheilk.*' 1911, LXXIII, p. 331).—**J. Simonn** had the opportunity of examining the stomach post-mortem of a child who died of pneumonia five months after cessation of the gastric symptoms. The wall of the stomach was much thicker than the normal. The author discusses the various views promulgated to explain the condition, and seems to be of the opinion that the stenosis may be due to a congenital malformation, and that secondary spasm of the musculature of the stomach may produce the characteristic symptoms.

F. R. B. ATKINSON.

Test for diarrhœa caused by gas bacillus ('*Boston Med. and Surg. Journ.*' October 13, 1910, *Abst. Journ. A.M.A.*').—**Kendall and Smith** have investigated the distribution of the gas bacillus in the stools of children with diarrhœal diseases. Sterile tubes of milk are inoculated from the stools and incubated. If the gas bacillus is present the casein is largely

dissolved (usually at least 80 per cent.), and what remains is of a slightly pink colour and vacuolated. The culture also smells strongly of butyric acid. Gram-stained preparations show rather thick, short bacilli with slightly rounded ends. Out of 231 infants whose stools were examined, it was found possible to isolate the gas bacillus in 22. Six of these infants had apparently normal stools, two had thin watery stools with a few curds and a little mucus, and the remaining fourteen showed blood and mucus and many of them pus in the stools. The clinical diagnosis in these fourteen cases was uncertain, but suggested bacillary dysentery, but the dysentery bacillus could not be isolated. After twenty-four hours of starving and purgation the administration of buttermilk is an effective treatment. The gas bacillus thus seems to be an ætiological factor in a small group of the acute diarrhœas in infants.

T. R. WHIPHAM.

The bacteriology of acute respiratory infections in children ('*Journ. Amer. Med. Assoc.*,' 1910, II, p. 1241).—**Holt**, in a series of over 500 patients at the Babies' Hospital, New York, finds that in cases of pneumonia the pneumococcus and *Staphylococcus aureus* predominate. Out of 124 cases the former was present in 94 and the latter in 116. *B. influenzae* was found in 47 and the streptococcus in 63. The last-named was rarely the predominant organism found, though often present in small numbers. This may be accounted for by the fact that few of the pneumonias were secondary to such infections as measles, diphtheria, etc. The character of the infection in bronchitis is essentially the same as that in pneumonia. Thus in 133 cases the pneumococcus was found in 105, the *Staphylococcus aureus* in 117, *B. influenzae* in 63, and the streptococcus in 71. The first two were also found to predominate in cases of pulmonary tuberculosis, each being present in 16 out of 23 cases. The influenza bacillus was found in 6 and the staphylococcus in 12.

T. R. WHIPHAM.

Rickets: Its cause and treatment ('*Clinical Journ.*,' 1911, XXXVIII, p. 364).—**Eric Pritchard** regards the pathogenesis of rickets as a vicious circle of events consisting of an inefficient liver connected up by innumerable links, with a disturbed central nervous system. The liver may be primarily damaged by faulty methods of feeding, or it may be inherently inefficient. As a rule there are first indigestion, then toxic products of this, then efforts on the part of the liver to oxidise or destroy these products, then collapse or failure with the escape of these products into the general circulation, and finally, poisoning of the nervous system. This in turn leads to further hepatic inefficiency and also to incapacity on the part of the other great furnaces of the body, so that now even the normal food products cannot be oxidised or physiologically disposed of. Hence follows an acidosis, and for the neutralisation of these acid products the tissues are deprived of calcium, ammonia, and other elements. The author proceeds to discuss the causation of the various symptoms of rickets in the light of this theory, and to apply it to the treatment of the disease.

REGINALD MILLER.

Histological note on the origin and function of Hassall's corpuscles in the thymus ('*La Pediatria*,' 1911, XIX, p. 457).—**A. Barbarossa** finds that in man the thymus does not disappear at the age it is usually supposed to, *i. e.* at the fourteenth or fifteenth year, that it is a gland with an internal secretion with an undefined function which is exercised chiefly in intra-uterine life. This function is almost entirely connected

with Hassall's corpuscles, which are of two kinds, one appertaining to the stage of evolution, the other to the stage of involution of the gland. Hassall's corpuscles in the stage of evolution are epithelial remains of the thymus gland, the function of which is probably due to them; while those met with in the stage of involution of the thymus seem to have their origin in great measure in the proliferating endothelium of the vessels and capillaries. This is shown by the fact that in the involuting thymus there is a marked scarcity of blood-vessels, while on the other hand Hassall's corpuscles increase and tend to enlarge.

VINCENT DICKINSON.

The changes in the thyroid gland in chondro-dystrophia foetalis and osteo-genesis imperfecta ('*Jahrb. f. Kinderheilk.*,' 1911, LXXIII, p. 50).—**M. Sumita** devotes a long article to the consideration of the literature and of his own experiences from the post-mortem examination of two cases of the former and three of the latter disease, controlled by the examination of the thyroid gland in seventeen cases of foetuses from the eighth month to children 1½ years old. The author's results are as follows: (1) In both diseases the size and weight of the gland remain within normal limits. (2) There is no similarity between the condition of the thyroid in his cases and that found in myxœdema and cretins, but on the contrary the gland compared with the control cases was normal. (3) The slight anomalies found in cases of chondro-dystrophia in the thyroid gland are just as frequently found in normal babies. (4) There is no relationship between chondro-dystrophia foetalis and myxœdema or cretins. (5) No form of foetal skeletal disease can be referred to disturbance of the function of the thyroid gland.

F. R. B. ATKINSON.

The importance of pathologico-anatomical changes in the parathyroid glands in the pathogenesis of infantile tetany ('*Monatsschr. f. Kinderheilk.*,' 1911, x, p. 154).—**G. Jörgensen** comes to the conclusion that Escherich is wrong in supposing that the parathyroid glands have any connection with tetany. He finds support for his view in Yanase's examination of the glands in fifty cases in which more than half showed no changes although tetanic conditions were present during life. In the author's own case of a child, aged 7 months, the parathyroids on the most careful microscopical examination were found quite normal.

F. R. B. ATKINSON.

Familial chronic tetany ('*Jahrb. f. Kinderheilk.*,' 1911, LXXIII, p. 601).—**F. Schiffer**.—Tetany in children has been supposed by some to be due to a special form of disturbance of metabolism and by others to the absence or deficiency of function of the epithelial bodies in which hæmorrhages or remains of the same were found by Yanase in 71 cases out of 104. Schiffer had the opportunity for microscopical examination on section of the epithelial bodies in four brothers who died from tetany but found no hæmorrhages or remains of such in any of them, and concludes therefrom that tetany is a disease of the nervous system, the exact condition of which is still unknown.

F. R. B. ATKINSON.

The relation between infantile tetany and the parathyroid glands ('*Riv. di Clin. Pediat.*,' 1911, ix, p. 413).—**L. Pollini** has undertaken extensive observations on the pathological anatomy of parathyroids in three cases of tetany, and in one case found abundant connective-tissue stroma

which divided the parenchyma of the gland into numerous small lobules; there was no hæmorrhage. In a second case there were vesicular cysts, lined with epithelial cells, some filled with an acidophile colloid substance; no hæmorrhage. In a third case there was circumscribed hæmorrhage in a cyst, and also diffuse hæmorrhage. In three cases of broncho-pneumonia there was slight development of connective tissue, in two cases of tuberculosis general connective-tissue proliferation, in four cases of rickets diffuse sclerosis. In two of diphtheria the glands were normal. In two fetuses there were cirrhosis and hæmorrhagic foci. It is noteworthy that in one case of tetany and all those of rickets there was sclerosis, which may explain the coincidence of rickets with tetany. The author also undertook observations on the effects produced by the administration of parathyroidin by mouth in cases of tetany. He gave it in six cases for periods between ten to thirty-eight days; in the majority of them the contractions disappeared from the fifth to the eighth day—the laryngo-spasm remained persistent.

VINCENT DICKINSON.

Hæmorrhage in the parathyroids and infantile tetany (*'La Pediat.,'* 1911, xix, p. 561).—**A. Jovane**, seeking to discover the relation between parathyroid insufficiency and tetany, reports six cases, two of marked tetany and four of other diseases. None of them had any kind of hæmorrhage into the parathyroids, either general or circumscribed, intercellular or subcapsular, nor any trace of blood-pigment. In one case of tetany and another of tuberculous meningitis there was a certain amount of increase in the perivascular connective tissue. There was nothing else abnormal. The author admits the objection that parathyroid hæmorrhage occurs during the first months of life and the remains of it disappear within a year. Both the cases of tetany were over two years of age, however, the age at which it is most frequent. Experiments on dogs were also made by the author, who, while granting that parathyroid insufficiency has a large share in the development of infantile tetany, cannot accept the assertion made by some observers that there is a more or less constant relation between tetany and parathyroid hæmorrhage, especially since the histological study of parathyroids of infants with tetany show no marked changes, either permanent or progressive, which could in any way interfere with the function of their glands.

VINCENT DICKINSON.

Examinations of spinal cords in tetany (*'Monatsschr. f. Kinderheilk.,'* 1911, x, p. 261).—**J. Zappert** finds on the microscopical examination of spinal cords in this disease, six in all, that there are no changes either in the cord or spinal ganglia which can be looked upon as pathognomonic.

F. R. B. ATKINSON.

Little's disease (*'La Clin. Infant.,'* 1911, ix, p. 296).—**Mme. Long-Landry** publishes as her thesis her anatomical and pathological investigations on this disease. In the four cases sent to her by M. Variot, she found—(1) a meningo-encephalitis which had attacked the brain about the fourth or fifth month of intra-uterine life, and produced, by the cortico-ependymal adhesions, a later atypical development, assuming the form of a congenital porencephaly. The state of the cortex of the brain explained the integrity of the intellectual faculties. (2) A later and more diffuse meningitis accompanied by an inflammatory condition of the epen-

dyma and choroid plexus and resulting in an atrophy and definite destruction of the cerebrum and cerebellar cortex. (3) In the third child, an idiot, inflammation of the meninges. Ependyma and choroid plexus had caused no alteration in the form of the convolutions, but alterations in the structure of the cortex and white matter. (4) Lesions of the same kind as in the preceding cases but with a spinal localisation; a meningo-myelitis with scattered lesions, both interstitial and parenchymatous. In spite of the diffusion of the lesions throughout the spinal cord the spasmodic condition was limited to the lower limbs; the upper limbs had merely some uncertainty in movement. These cases prove that Little's disease arises from lesions different both in their seat and in their nature. There are cerebral and cerebro-spinal forms and also the purely spinal form described by Dejerine. The pathological factors are of two kinds—infectious causes which act during uterine life, and the traumatism of childbirth. The presence of contractures will not alone explain the functional weakness; when these are present they mask the motor disturbance which has been described under the name of "choreo-athetosis"; considered as superadded phenomena they represent rather an imperfection of voluntary mobility. The evolution of the rigidity towards the paraplegic form and the anomalies of voluntary motility are the consequence of the early involvement of the nervous centres. They represent the functioning of a nervous system stricken in the course of development and adapting itself to lesions by the organisation of supplementary phenomena. This physiological interpretation common to all congenital diplegias, whether beginning in intra-uterine life or at the moment of birth, allows of their being placed in one group under the denomination of Little's disease, according to the man who first described them.

VINCENT DICKINSON.

Cerebral palsy in children (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 675).—A. Lindermann and V. Marenholtz describe four cases of the above disease with their post-mortem findings, and believe that the disease is caused (1) by defects of the brain as a result of endogenous malformation of the embryo (anencephaly, partial aphasia, microgyria, etc.); (2) by lesion of the blood-vessels with hæmorrhages into the membranes, subdural space, and brain substance, occasioned by damage to the skull before, during, or after birth; (3) by encephalitis resulting from various infectious diseases and diseases of the bowel.

F. R. B. ATKINSON.

Fatty change in the muscular tissue in primary amyotrophy (*La Pediat.*, 1911, XIX, p. 22).—E. Peruzzi made a biopsy on a boy of 10 years, the subject of primary amyotrophy of mixed type of the scapulo-humeral form (Erb). The examination proved that the fat originated (1) directly from the retrogressive protoplasm of the muscular fibre; (2) from the muscle-cells of the endo-sarcolemma; and (3) from the muscle-cells of the extra-sarcolemma.

VINCENT DICKINSON.

Is acute chorea an infectious disease? (*Journ. Amer. Med. Assoc.*, 1910, II, p. 1198).—Gordon concludes that, similarly to acute poliomyelitis, acute chorea is probably associated with some infectious element. The onset of the disease and its pathological anatomy render the two affections analogous. The fundamental difference lies in the fact that in the one disease the motor cells are being destroyed, hence the paralysis, while in

the other the motor cells undergo irritation, hence the twitching. The destructive effect in the former and the irritating effect in the latter point to a difference in the virus in the two affections. Hudovernig found marked vascular lesions in the central nervous system in chorea, consisting of dilatation of the capillaries and perivascular infiltration with round-cells and œdema. Degenerative changes are found in the cortical cells, and vacuolation is present in the cells of the cornu Ammonis. There is also slight ependymitis and leptomeningitis. A large number of special corpuscular bodies (*Chorea-Körperchen*) are disseminated around the blood-vessels, especially in the medulla and pons, which have an irritative action on the pyramidal tracts and thus produce choreic movements. Whether these bodies are specific of chorea it is difficult to say. It is possible that a certain variety of staphylococcus is the cause of chorea, but so far it has not been determined.

T. R. WHIPHAM.

Otology, Rhinology, and Laryngology.

Symptoms of acute otitis media (*Med. Klin.*, October 16, 1910. *Abst. Journ. A.M.A.*).—**Blum**, after a further experience of 200 cases, confirms his statement that pressure upwards and inwards towards the auditory canal behind the angle of the jaw in the groove formed by the inferior maxillary bone and the anterior border of the sterno-mastoid on the affected side causes decided evidence of pain in cases of otitis media. The symptom is constant, and of special diagnostic value in infants.

T. R. WHIPHAM.

A preliminary note on the influence of position in relation to the occurrence of mastoiditis and its complications (*New York Med. Journ.*, 1911, II, p. 521).—**C. A. Adair-Dighton** asks why left-sided "mastoids" are more common than right? He finds at least 90 per cent. of cases of mastoiditis are left-sided. He believes this to be due to the fact that the majority of people sleep on the right side, thereby draining the right ear and causing left-ear discharges to be retained.

MACLEOD YEARSLEY.

The treatment of otitis media purulenta and mastoiditis in infants (*New York Med. Journ.*, 1911, I, p. 271).—**J. R. Page** extols the use of peroxide of hydrogen to loosen the tenacious discharge in these cases. He insists on the importance of early incision of bulging drums whereby the duration of the middle-ear condition is considerably lessened. When mastoiditis has developed, treatment by operation should be considered before the vitality is additionally lowered by septic absorption. No mention is made as to the uses of vaccine therapy in these cases.

MACLEOD YEARSLEY.

Permeating mastoid meningitis (*Practitioner*, 1911, II, p. 239).—**J. B. Pike** considers this name should be given to those cases of mastoid meningitis in which the infection is conveyed through the bony canals, along the sheaths of nerves and vessels by a permeative process. The symptoms are very similar to ordinary mastoid disease, but there is almost complete absence of pain over the mastoid. The author describes two cases in two children of eight, both of which died notwithstanding operation.

F. R. B. ATKINSON.

The use of the Hiss extract of leucocytes in infections, particularly erysipelas, with a report of cases (*'Med. Record,'* 1911, I, p. 929).—**J. G. Dwyer** read this paper before the Medical Society of the County of New York. The largest number of his cases followed mastoidectomies and nose and throat operations, and it was interesting to note that the healing of the wound was not in any way delayed (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, p. 523).
MACLEOD YEARSLEY.

The effect of maxillary readjustment upon the development of nasal chambers and face (*'Annals of Otol., Rhinol., and Laryngol.,'* 1910, XIX, p. 885).—**Geo. V. J. Brown**.—**Widening the dental arches in nasal stenosis; its results and possibilities** (*ibid.*, p. 933).—**Nelson M. Black**.—The two papers require to be taken together. **Brown** considers whether direct improvement of intra-nasal conditions can be effected by treatment of dental and maxillary conditions, and if so, how may it best be accomplished. He discusses the developmental principles underlying the question and the effects of adverse muscular action. He demonstrates the practicability of improving nasal deformities by separating the maxillæ and directly increasing the size of the nares, and then proceeds to demonstrate that arrest of growth in width across the palate can cause deviated septum, contracted nares, or even complete nasal stenosis. He compressed the palates of eight-week-old pups by wire, so as to reproduce as nearly as possible the maxillary condition of mouth-breathing children, one control pup being kept. At the end of six months the puppies were killed, the heads frozen and sections cut, reproductions of which are given. The control puppy thrived, the others became emaciated, and their noses showed stenosis, deviation of the septum, etc. **Black** deals especially with septal deflections and the objects to be obtained in correcting them. He considers that the dental arch can be widened for a deformed septum accompanied by dental irregularities up to middle life, and cites one good result in a woman, aged 33 years. The results in children with commencing nasal stenosis appear to be very marked. The author considers to be answered in the affirmative the question which he puts thus: "Given a case in which we have insufficient space for proper nasal breathing, with an arch with seemingly perfect occlusion, is it our duty and have we the right to alter the shape of the maxillæ and rearrange the occlusion to allow the nose to properly functionate?"
MACLEOD YEARSLEY.

Purulent rhinitis in scarlet fever (*'El Siglo Medico,'* 1911, LVIII, p. 278).—**E. G. Gereda** points out that this is one of the most serious complications in this exanthem. At the hospital in Aubervilliers, out of 779 cases of scarlet fever 29 died, but of these 29, purulent rhinitis accounted for 9 deaths. It commences most frequently in the first three days of the disease, but one should be on one's guard again, especially on the tenth day or so, for any sign of nasal obstruction. There is usually sore throat at the same time. In one case examined bacteriologically only streptococci were found, in another some variety of Klebs-Löffler bacilli. The treatment should be energetic, by irrigations three or four times during the day, one, two or three times at night. He uses a solution consisting of equal parts of hydrogen peroxide, 10 volumes, and a 4 per cent. solution of bicarbonate of soda. The mouth as well as the nose should be irrigated. After irrigation an ointment of menthol or resorcin (1 in 30) can be applied to the nostrils.
M. D. EDER.

Nasal obstruction and its consequences in school-children (*Brit. Med. Journ.*, 1911, II, p. 472).—**Cecil E. Reynolds** classes nasal obstruction in school-children, in order of frequency, as: (1) Adenoids; (2) enlarged turbinate bones; (3) thickened and deviated septum and spurs; (4) nasal polypi. He points out the association of cardiac valvular disease with enlarged tonsils. He compares London and Berkshire children, and points out that (1) London teeth are incomparably better; (2) London nutrition is inferior; (3) enlarged tonsils are less frequent; (4) phthisis is more common. The paper, a short one, repays perusal. **MACLEOD YEARSLEY.**

Sore throat (*The Clinical Journal*, 1911, XXXVIII, p. 241).—**H. Tilley**, dealing with acute sore throat in children, urges the first importance of: (1) Looking for a rash; (2) taking the temperature. He enters upon the differential diagnosis between tonsillitis and diphtheria, and emphasises the value of a bacteriological examination, isolation and antitoxin when in doubt. **MACLEOD YEARSLEY.**

Reflex affections of the tonsil (*New York Med. Journ.*, 1911, II, p. 270).—**R. B. Faulkner** discusses a little-known subject, and appears to believe that many cases of apparent disease of the tonsil are really reflex and dependent upon other conditions, as carious teeth, œsophageal carcinoma, etc., and deprecates what he terms "the present operative folly against the faucial tonsils." **MACLEOD YEARSLEY.**

Dental caries as a cause of enlarged tonsils (*The Medical Officer*, 1911, VI, p. 87).—**Cameron Gibson** discusses this question in an able paper based upon the inspection of nearly 2000 children in Liverpool, and illustrated by tables and diagrams. He proves the existence of a correlation of considerable size between dental caries and enlarged tonsils, difficult to explain by the assumption of a common cause, and probably due to direct bacterial infection either of teeth from tonsils or of tonsils from teeth, the evidence being in favour of the latter connection. **MACLEOD YEARSLEY.**

Relation of the tonsil operation to the soft palate and voice (*New York Med. Journ.*, 1911, II, p. 265).—**G. Hudson-Makuen** concludes that normal tonsils are helpful rather than prejudicial to phonation, whilst hypertrophied tonsils interfere with the action of the muscles, deflect the vibrating column of breath, and impair the normal resonance of the oral cavity. Degenerate tonsils are prejudicial to phonation by injuring health and setting up catarrhal conditions. The two important indications for tonsil operation are removal of foci of infection and increase of functional efficiency of respiratory, phonatory, and articulating organs. The tonsil that requires removal is always prejudicial to vocal excellence, and should be removed with great care and deliberation. The popular belief that the removal of tonsils is injurious to the voice is well founded, and is due in a large measure to careless and bad surgery. **MACLEOD YEARSLEY.**

Are adenoids congenital? (*Monatsschr. f. Kinderheilk.*, 1911, X, p. 162).—**Prof. Czerny**, as a result of careful consideration of the question for some years, does not agree with Erdely that adenoids are congenital.

F. R. B. ATKINSON.

The relation of adenoids and hypertrophied tonsils to retarded mental and physical development (*Med. Record*, 1911, II, p. 475).—

E. Bosworth McCready concludes that tonsils and adenoids occur in individuals who present symptoms of hypoplasia, resulting either from hereditary or developmental causes; that there would seem to be an intimate relationship existing between perversions of the internal secretions of the ductless glands and hypoplasia, resulting in hypertrophied tonsils and adenoids; that tonsils and adenoids are factors in retardation by their mechanical action as sources of reflex irritation, and as impediments to the proper development of the cerebral centres concerned in speech; and that removal of tonsils and adenoids is not sufficient, in cases of marked defect, to bring about restoration to normal. Special training and measures directed towards the amelioration of the underlying hypoplastic condition are necessary.

MACLEOD YEARSLEY.

Acute tonsillitis and its treatment (*Med. Record*, 1911, I, p. 852).—

H. Hays remarks that the causation of acute tonsillitis is apparent as soon as a culture is taken, streptococci being the agent in over 80 per cent. of cases. Differentiation from diphtheria is important. Tonsillitis must be looked on as a local disease causing systemic infection and must be primarily treated locally. The crypts must be opened up and drained, and swabbed with silver nitrate in a strength of 50 per cent. By this method the patient is usually well in twenty-four hours.

MACLEOD YEARSLEY.

Technique in adenoid and tonsil operations (*New York Med. Journ.*, 1911, I, p. 459).—

L. D. Alexander and **J. T. Gwathmey** discuss this subject under the headings of preparation, anaesthesia, technique, and after-treatment. They advise gr. v of chlorotone, one hour before operation, in children over six years old, and preliminary spraying of the upper air-passages with antiseptic solution. They advise anaesthesia "deep enough to abolish all reflexes, including the cough, swallowing, and tongue reflexes," anaesthesia being induced during sleep. During operation, blood is removed by means of a graduated Wolff bottle, or suction pump, and catheters passed into the nasal chambers. After the removal of adenoids and tonsils, the vault of the pharynx is wiped over with alcohol or gauze and the nares doused with cold saline solution. The paper is a remarkable one, if only from the point of view of the manufacture of mole-hills from mountains.

MACLEOD YEARSLEY.

When shall we remove tonsils, and what type of operation shall we do? (*Boston Med. and Surg. Journ.*, 1911, I, p. 414).—

E. A. Crockett deprecates the wholesale removal of tonsils, but advocates their removal (1) in all cases presenting large non-adherent tonsils largely filling the cavity of the pharynx because of the obstruction to breathing, their possible interference with nutrition, and to secure proper jaw development at the period of the second dentition; (2) in all cases associated with enlarged cervical glands, articular rheumatism where the tonsil is probably an aetiological factor; (3) in all cases of repeated peritonsillar abscess. As regards the type of operation, enucleation is to be preferred, especially in groups 2 and 3. In simple hypertrophy devoid of symptoms the author thinks tonsillotomy is sufficient. Some remarks upon post-operative hæmorrhage conclude the paper.

MACLEOD YEARSLEY.

Mental suggestion as a substitute for anæsthetics in the removal of tonsils and adenoids from children (*Med. Record*, 1911, I, p. 1004).—**Gulliver**, frightened by the number of reported deaths from anæsthetics, and rightly considering operation without to be “unjustifiably cruel,” has tried mental suggestion. His method appears to be the sprinkling of alcohol and compound tincture of lavender on a mask and assuring the child he is going to sleep. He states that, in 200 cases, he has been successful in 80 per cent.

MACLEOD YEARSLEY.

Report of a case of probable abscess of the larynx, requiring intubation, followed by inspiration pneumonia (*Cleveland Med. Journ.*, 1911, x, p. 577).—**J. J. Thomas** describes the case of a girl, aged $3\frac{1}{2}$ years, who developed a spasmodic cough, followed rapidly by inspiratory dyspnoea, with slight fever. She grew gradually worse, with increasing rises of temperature, and finally required intubation, immediately after which she coughed up about a teaspoonful of pus, with immediate relief. In the evening, however, she developed pneumonia, and four days later it was found necessary to extubate. An attack of severe dyspnoea occurred three days after, but re-intubation was not necessary. The pneumonia ran a peculiar course, the temperature fell from 104° to 98° F. on the ninth day, rose at noon on the tenth day to 102° , falling at midnight to 99.6° , and again rising to 105.2° at noon on the eleventh day. For more than two weeks after the extubation there was complete aphonia. MACLEOD YEARSLEY.

Foreign bodies in the bronchi and bronchoscopy (*Paris Méd.*, 1911, II, p. 241).—**Guisez** describes four cases of the successful removal of foreign bodies by means of the bronchoscope. The first patient was a child, who retained an open penknife in the right bronchus for more than one month. This body measured 7 cm., and was removed without a general anæsthetic. The second patient, aged 12 months, was relieved of a rabbit bone 1 cm. long. The third case (adult) was one of an artificial denture, and the fourth, a boy, aged 10 years, was a plum-stone. The author remarks upon the extraordinary tolerance of the air-passages to metallic foreign bodies.

MACLEOD YEARSLEY.

Bronchoscopy in small children (*Deutsch. med. Wochens.*, 1911, XXXVII, p. 1204).—**Killian** reports a series of cases in which bronchoscopy was done in small children for removal of foreign bodies, and was surprised at the large number which came to intubation or tracheotomy following the procedure. He made a careful study of the question to see if this swelling of the larynx and glottis could be avoided. He found from measurements that the bronchoscope was frequently so large that it was bound to cause trauma in the subglottic space. He considers that examination should be made first to see if œdema or inflammation already exist in the subglottic space. By picking the cases free from injury to this space and measuring the instruments so that they fit, intubation and tracheotomy only can be avoided. If the cases must eventually come to tracheotomy, why not do the bronchoscopy through a tracheotomy wound to begin with?

MACLEOD YEARSLEY.

Reviews.

LA PRATIQUE DES MALADIES DES ENFANTS. VOL. IV: MALADIES DU CŒUR ET DES VAISSEAUX, DU NEZ, DU LARYNX, DES BRONCHES, DES POUMONS, DES PLEUVRES ET DU MEDIASTIN. Paris: J. B. Baillière et Fils, 1911. Price 16 frs., paper cover; 17 frs. 50c., bound.

THIS is the joint work of Drs. Moussous, Barbier, Guinon, J. Hallé, Zuber, Armand-Delille, Audeoud and Bourdillon, and is one of a series of eight volumes. It is bound well in stout paper covers; the printing is excellent, though the illustrations are not quite perfectly reproduced. The names of English writers, far too few of whom are quoted, are somewhat mutilated. Another fault is the disproportionate treatment accorded to the different subjects. Out of nearly 700 pages, the heart is allowed only 150, while diseases of the larynx are actually given over 70. It is perhaps ungracious to carp at this, however, for the articles on laryngeal diseases are excellently arranged and most carefully written by Dr. H. Barbier. In fact, the keynote of the whole book is thoroughness, and the writers have set themselves the hard task of treating impartially all debateable matters in a manner worthy of so ambitious a book.

Several details may be of interest. The endocarditic origin of some of the congenital malformations of the heart is more respectfully treated than in English text-books. It is curious to find no mention of Duroziez in a rather luke-warm discussion of the congenital form of mitral stenosis. An extraordinary amount of attention is paid to the subject of tuberculous endocarditis, a lesion of the very rarest type according to English writers. The paragraphs on rheumatic carditis are good in so far that the writer has grasped the fundamental fact that the lesions of the various parts of the heart ought to be considered together and not separately. One excellent sentence must be quoted: "la chorée n'est qu'un symptôme." Turning to the section which deals with respiratory disorders we find very full discussions of various interesting subjects. The writers find that lobar and lobular pneumonia in children are not sharply separated entities; the forms intermediate between the characteristic, extreme types they describe as "pulmonary congestions." The lengthy account of pulmonary tuberculosis and "adénopathie trachéobronchique" prompts the thought that these affections must be much more frequent in France than they are in England, or else that the French physician is very fond of this diagnosis. There is a most useful list of institutions to which tuberculous children may be sent. Long and thorough descriptions of whooping-cough and asthma bring the volume to a close.

The writers have throughout done their work well, and the volume worthily represents the modern French point of view in relation to diseases of the circulatory and respiratory organs in childhood. A comprehensive index is badly needed in order to make the book useful as a standard work of reference, a part for which it is in all other respects amply fitted. C. C.

LA PRATIQUE DES MALADIES DES ENFANTS. DIAGNOSTIC ET THÉRAPEUTIQUE. Vol. vii. CHIRURGIE DES ENFANTS. By Drs. BROCA, FROELICH, MOUCHET, GUISEZ, and TERRIEN. Paris: J. B. Baillière et Fils, 1911. Price 14 frs., paper cover; 15 frs. 50 c., bound.

Perhaps there is more difference between the French and the English point of view when approaching the diseases of children than is generally

supposed; but certain it is that English readers will lay aside vol. vii of 'La Pratique des Maladies des Enfants' with a sense of disappointment. This volume is devoted to the surgery of children, the first half of the book dealing with the digestive, circulatory, pulmonary, and genito-urinary systems, and the second half with the special senses. The first chapter, setting forth the general principles of surgery in children, is admirably written, and is undoubtedly the best in the book. Malformations generally are well described and well illustrated, especially those at the lower end of the rectum and the varieties of cysts found in connection with the spermatic cord.

But when the regional surgery is discussed the impression is rapidly gained and is strengthened the further one proceeds, that the book is written by those who are accustomed to look upon the diseases of children, not as something special and apart, but merely as affections of miniature adults. Nowhere is there any allowance made for age in regard to treatment, though it is scarcely necessary to point out that though an infant of six months may suffer from the same disease as a child of twelve years old, the treatment of the two cases will probably differ widely. This impression is strengthened by the fact that many of the illustrations (Nos. 101, 102, 121, 122, 123 and 132, to mention only a few) are those of adults. The book also appears to be extremely unbalanced: this may be due to the large number of authors taking part in its compilation. It is in places a mine of information as to the rare abnormalities which have been recorded in French medical literature; but as regards the simpler and commoner troubles to which children are peculiarly liable, such as incontinence of urine or hernia, where details of practical treatment are always welcome, very little useful information is offered to the reader. Many of the statements made are quotations from other writers which, even when labelled with a well-known name, are of small value if divorced from their context.

Of the three pages devoted to cystitis, two are restricted to the consideration of the tuberculous form. Of the seven pages dealing with all varieties of orchitis and epididymitis no less than five are restricted to tubercle; incontinence of urine is dismissed in barely two and a half pages. Surely these proportions are hardly prompted by practical experience either in the wards or in the out-patient clinics.

Many paragraphs could quite well have been omitted, as they are concerned with affections which are in no sense peculiar to children, and their place could be filled better by views representing the experience of the different writers. We refer more especially to the paragraphs on tumours of the vagina, disorders of menstruation, prolapse of the uterus, gangrene of the scrotum, ozæna, and inflammation of the maxillary antrum. Many of the illustrations of the use of ordinary surgical instruments in the examination of the ear, nose and throat (the pictures are of adults) are superfluous to any who have had an adequate medical training. These points, however, which appear to us to be defects, may assume a different character in the eyes of our neighbours across the channel, as we hinted at the beginning; it depends on the point of view.

D. C. L. F.

LATERAL CURVATURE OF THE SPINE AND FLAT-FOOT, AND THEIR TREATMENT BY EXERCISES. By J. S. KELLETT SMITH, F.R.C.S. Bristol: John Wright & Sons, 1911. Price 5s. 6d. net.

It is unfortunately true that the ordinary orthopædic text-books when dealing with scoliosis deal mainly with the more severe forms and with high-grade deformities. Fortunately these are comparatively rare in this country,

particularly in private practice. The slighter postural deformities are, however, very common, especially among growing girls, and their exact recognition is very important to the practitioner, and particularly to the school doctor. Mr. Kellett Smith deals with these slighter forms alone, giving a careful description of their causes and of their treatment by exercises. He is evidently considerably influenced in his methods of treatment by Klapp, whose creeping exercises have not been sufficiently practised in this country, although they are very highly spoken of in Germany, where scoliosis is apparently much more common than it is with us. And perhaps one of the most useful points about the book is the short but detailed descriptions of these creeping exercises. In his account of other exercises Mr. Kellett Smith very rightly lays great stress upon the necessity for careful attainment of the initial position before the exercise is started, a matter which is almost more important than the exercise itself.

It is unnecessary to follow the author through his account of the causation of lateral curvature: the chief points are all clearly and fairly put forward. Incidentally an important and interesting new theory of the action of the ribs in producing or increasing rotation of the vertebræ is advanced. In stating the frequency of lateral curvature in the sexes the author lays himself open to criticism by saying that it is much more frequent in females than in males. This is, of course, true of the more severe deformities, but in the slighter cases with which Mr. Kellett Smith is dealing all school statistics show an equality in the percentage occurrence in boys and girls.

In the second part of the book a brief account is given of the treatment of the slighter grades of valgus ankle and flat-foot. In addition to exercise treatment the principles of altering the line of transmission of the body-weight by "clumping" the boot and "crooking" the heel are described.

These latter methods have been greatly neglected by surgeons in the south of England, and it is to be hoped that Mr. Kellett Smith will succeed in calling attention to them.

R. C. E.

THE DEAF CHILD: A MANUAL FOR TEACHERS AND SCHOOL DOCTORS.
By J. KERR LOVE, M.D. Bristol: John Wright & Sons. London:
Simpkin, Marshall & Co., 1911. Pp. 192. Price 4s. 6d. net.

DR. KERR LOVE, whose name has long been known, and whose work cannot be too much appreciated by those who have the care of the deaf child really at heart, has produced a volume as valuable as it is fascinating. It is not a book that can be done justice to in a short review, and only those who have worked with, and for the deaf child, can appreciate it at its true worth. As a most appropriate foreword, Dr. Kerr Love quotes words written to him by Helen Keller in 1910, in which that gifted woman (who would have shone had she been hearing and seeing as she has shone when deprived of those faculties) says: "It will be a great step forward when the physician takes part in the work for defectives who have hitherto been entrusted wholly to teachers in schools." This step forward is being taken, and to Dr. Kerr Love we owe the stimulus which has initiated it. The future of the deaf child, his appreciation and education lie in the domain of the doctor; the prevention of congenital and, still more, of acquired deafness come equally within his sphere of action. 'The Deaf Child' should be in the hands of every teacher of the deaf, of every otologist and of every general practitioner. It can teach them all, and Dr. Kerr Love will rank high among those members of the profession who have worked for the good of mankind.

M. Y.

THE LIFE-HISTORY, FUNCTION, AND INFLAMMATION OF THE APPENDIX. By EDRED M. CORNER, M.A., M.C., F.R.C.S. London: John Bale, Sons & Danielsson, Ltd., 1911. Price 1s.

THIS little book is a reprinted address to the Clinical Society of Manchester. It deals with the physiology and function of the appendix, and of the relation of these with the more uncommon cases of appendicitis. We notice that in discussing the movements of the large intestine the author makes no mention of anti-peristalsis, which it has now been conclusively proved occurs normally at the cæcal end. The cases of undiagnosable appendicitis mentioned by the author are of great interest, as they are undoubtedly more common than are generally supposed and too little attention has hitherto been paid to them. We quite agree with the author that more harm is done by postponing operation in cases of appendicitis than in operating too frequently. The pamphlet is one which we can strongly recommend for perusal to anyone interested in the subject of appendicitis.

P. L. M.

RECHERCHES ÉPIDÉMIOLOGIQUES, CLINIQUES ET THÉRAPEUTIQUES SUR LA MÉNINGITE CÉRÉBRO-SPINALE. By Dr. ROBERT DEBRÉ. Paris: 1911. Félix Alcan. Price not stated.

THE writer, in his capacity of assistant to Dr. Netter, had ample opportunities of observing the recent outbreak of cerebro-spinal meningitis in Paris, and has incorporated in his inaugural thesis the results of their joint investigations to which we have already had occasion to allude (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, vi, p. 427).

The monograph is divided into three parts. In the first, which is devoted to the epidemiology and prophylaxis of cerebro-spinal meningitis, the question of meningococcus carriers is thoroughly discussed and the methods recommended for disinfection of the rhino-pharynx are shown to be extremely uncertain in their action. In the second part, which contains an admirable clinical description of the diseases in infants, the writer insists on the frequency of incomplete forms which render the diagnosis so difficult, and clearly shows that the posterior basic meningitis of English writers is anatomically, bacteriologically, and clinically identical with epidemic cerebro-spinal meningitis. In the third part the serum treatment and complications connected therewith are discussed.

J. D. R.

TRANSACTIONS OF THE ANNUAL CONFERENCE OF THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS. Pp. 220. London: Adlard and Son, 1911. Price 2s. 6d.

THE Association has done well in publishing an account of their transactions at the Congress held in London in July last. The President of the Local Government Board opened the Congress with an excellent address, in which he drew attention among other things to the decline of tuberculosis in the last ten years of 19 per cent. in England and Wales, 24 per cent. in Scotland, and 30 per cent. in London, to the fact that pauperism and consumption go hand in hand, and also to the evil wrought by alcohol in propagating tuberculosis. The sessions were divided into five: (1) Education by means of lectures, exhibitions, etc., on which Dr. Woodhead and Sir William Younger spoke. Dr. Shruballs drew attention to the good that

could be done by instructing school children in cleanliness, clothing and fresh air, and in practical enforcement of personal hygiene. Mr. Marsh described the work of the Cambridge branch of the League for Physical Education and Improvement, and Mr. Head the work among friendly societies and trade and other organisations of the working classes, and drew attention to the good that might accrue from lectures on the subject. (2) Machinery of detection, introduced by Dr. Philip. Dr. Wall dwelt on the hospital out-patient department, and suggested that after the patient has been certified at the hospital as suffering from pulmonary tuberculosis the general practitioner should be requested to examine the contacts, and be given the right to send the suspicious cases to a local consultative centre. Payment should be made to the practitioner for this extra work. Dr. Sutherland described the anti-tuberculosis dispensary, but seemed inclined to minimise the educative value of sanatoria. He placed the cost of a dispensary at £1500 per annum. Dr. Niven and Dr. Bibby followed with papers, and Miss Cowen described the excellent work done by the Jewish Board of Guardians. (3) Treatment was considered by Sir W. Osler, Dr. Latham, who drew attention to the false ideas prevalent among the public regarding the value of sanatoria, Dr. Jane Walker, who discussed sanatorium treatment, Drs. Paterson and Perkins, who considered their educative value, and other speakers. Miss McGaw drew attention to the value of tuberculosis schools and the desirability of their more universal adoption. (4) After-care of patients was dealt with by Mr. Loch and Dr. McConnel. (5) The administrative and financial aspects of the Insurance Bill; the cost to the community of tuberculosis; the use of existing accommodation. It would take too much space to consider all these papers, but mention may be made of a paper by Dr. Raw emphasising the use to which smallpox hospitals might be put as places of treatment of tuberculous patients, and one by Dr. Schuster on the National Insurance Bill and what it will do for the health of the nation. The book is well got up, and all the papers are worth reading and deserve the attention of every medical man.

F. R. B. A.

HEALTH PAMPHLETS FROM THE ST. MARYLEBONE GENERAL DISPENSARY.

THE authorities of the above institution have issued seven handy leaflets on the following subjects: (1) Directions for the feeding of infants; (2) hints on the management of children from one to five years of age; (3) hints on the care of children of school age; (4) advice as to the care of the teeth; (5) fresh air and ventilation; (6) how to prevent or arrest consumption; (7) hints to patients suffering from indigestion.

Pamphlet No. 1, on infant feeding, is in the form of a catechism, and for the most part is expressed with admirable simplicity and clearness. It is to be feared, however, that not all parents will understand the words "dilute" and "undiluted," which constantly recur in this leaflet. Again, sufficient emphasis is not laid on cleaning the bottle, and explicit directions on this matter are not forthcoming.

Pamphlet No. 2 contains advice as to proper feeding, and also gives excellent advice on clothing, ventilation, and the common ailments of child life. A timely warning is issued against the bare legs and arms so common a feature among otherwise over-dressed juveniles.

No. 3 warns parents against chemists, opticians, and vermin. A short section is devoted to breathing exercises, and the need of eleven to thirteen hours' sleep. In the leaflet on the care of the teeth, very long and difficult

words are used, which no doubt are understood by the author, but would certainly not be by his patients.

The leaflets on fresh air and the prevention of consumption are excellent, but the best of the series is the leaflet on indigestion.

A useful weight chart for infants has also been drawn up.

C. R.

PROCEEDINGS OF THE MANCHESTER CONFERENCE ON THE CARE OF THE FEEBLE-MINDED. Pp. 70. London and Manchester : Sherratt & Hughes. Price 6d.

These proceedings consists of papers by Dr. Tredgold and Miss Dendy, and the interesting discussion which ensued, and in which Drs. Lapage, Hutton, Melland, and Niven took part.

Dr. Tredgold stated that the number of defectives in the United Kingdom, *i. e.* those able to support themselves under favourable conditions, but unable to compete on equal terms with their normal fellows, reached the appalling figure of 150,000: 75,000 of these were wholly or partially supported by the State, and 66,000 needed permanent control owing to improper or unkind treatment.

The great disadvantage of leaving these persons at large consisted in the fact that the great majority of them were constantly committing trifling offences, that a few committed really serious crimes, and that women of this class were unable to protect their virtue, and were very fertile, producing twice as many children as their normal sisters.

Dr. Tredgold recommended that the children should be trained in special schools up to the age of sixteen, and after that age the county councils should be compelled to provide permanent homes for their life-long detention.

The predisposing cause of feeble-mindedness was discussed, and Dr. Tredgold emphasised the fact that the condition was hereditary, but that the inheritance was not necessarily feeble-mindedness, but the neuropathic diathesis. Environment was of no importance. There were as many defective children in the country as in the slums, among the peers as among the proletariat.

Miss Dendy laid great stress on the dire effects of close inter-breeding, and mentioned Essex, Hampshire, the Isle of Wight, and the Scilly Isles, where repeated marriages in the same families resulted in an unusually large defective population.

Miss Dendy's paper contained a most interesting account of the splendid work done at Sandelbridge. Children were taken young and were first taught how to make a bed, how to fold their clothes, and how to keep themselves clean. Boys and girls were then taught sewing and knitting, and the more able received instruction in reading and writing. Many of these children were specialists. They could do one thing well. Some had fine memories, and these were made to remind other children of their duties at the proper time; others could darn beautifully and became the menders of the colony's socks. Some boys, who could do nothing, were at last found able to peel potatoes. Any little talent they might possess was thus devoted to the service of the community, with the result that the colony was partly self-supporting.

The boys became wonderfully skilful in farm and garden work. Five boys had become milkmen, and were fairly aseptic in their methods.

The opinion of other observers was that the defective at Sandelbridge were happier than normal children. Miss Dendy can want no higher praise.

C. R.

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Original Articles.

ON CASES OF NIGHT-BLINDNESS WITH PECULIAR
CONJUNCTIVAL CHANGES IN CHILDREN.*

By SYDNEY STEPHENSON, D.O.Oxon.,
Ophthalmic Surgeon to the Queen's Hospital for Children, London.

At a meeting of the Section held on May the 26th last I exhibited a little boy, aged 5 years, who was brought by his mother to the Queen's Hospital for Children because he could not see at night and had "white spots" on his eyes. Examination of the blood showed that hæmoglobin was 68 per cent., red cells were 3,900,000, and white cells 8000 per c.cm. The colour-index, then, was 0·87.

The interest excited by the foregoing case led me to believe that a brief description of this curious condition, which does not seem to be at all generally recognised outside the ranks of ophthalmic surgeons, might not be wholly devoid of interest to members of the Section. Yet it is not altogether uncommon in the neighbourhood of London, provided one knows where to look for it, and looks for it at the right season. It prevails in children belonging to the lower strata of society, as, for example, such as are to be found as inmates of poor-law schools, orphanages, and so forth. In order to give my hearers some idea of its prevalence in those places, I may say that I found it to be present in 1·87 per cent. of 6209 presumably healthy

* A communication read before the Section for the Study of Disease in Children of the Royal Society of Medicine on October the 27th, 1911.

children whose eyes I examined a few years ago. On the other hand, in my experience it is not at all common in children's hospital work, mainly, I suppose, because the affected children seldom make any complaint of their eyes, and also because the hospital class, as a class, is notoriously unobservant. At the same time, a few cases have been reported from the London Hospital by Stephen Mayou (2) and by Malcolm L. Hepburn (2) respectively. Speaking for myself, I have seen occasional cases in the ophthalmic department of the Queen's and the Evelina Hospitals for Children. But I have yet to meet with a case among children of the better class, *i. e.* such as would consult us in private practice.

It prevails in summer and autumn, and is seldom seen during the winter months.

The symptom-complex, in its fully developed form, includes—first, changes in the ocular conjunctiva, and secondly, night-blindness. This conjunction is sometimes spoken of as “Bitot's syndrome,” despite the fact that it was described (4), though perhaps not very fully, by de Hubbenet, a Russian army surgeon, in 1860, that is, three years before Bitot wrote (5).

The conjunctival changes are seldom seen except in that part of the ocular conjunctiva which is exposed when the lids are open, the so-called “interpalpebral zone” (E. Fuchs). They usually affect both eyes, sometimes to an unequal extent. They occur as more or less triangular areas (often situated one on each side of the cornea), which are dry, and look as if they had been bespattered with tiny particles of white foam. If the foam-like material be wiped away (a simple affair), it is reproduced within twenty-four to thirty-six hours after complete removal. The glistening, dry-looking plaques, if once seen, can scarcely be mistaken for anything else. To the condition the name “epithelial xerosis” (Saemisch) is commonly applied.

In my experience, and in that of every other observer who has investigated the point, the patches on the conjunctiva are crowded with the saphrophytic organism, the *xerosis bacillus*.

The history of the second symptom, night-blindness, is often difficult to elicit from young children. Neither have we at our disposal any ready or accurate objective means of ascertaining its presence or absence in that class. In residential institutions, however, nurses and attendants not infrequently present a child for medical consultation because they have noticed him stumble about in twilight, or to knock into objects after the lights have been turned low in the dormitories.

The relationship between conjunctival changes on the one hand and night-blindness on the other is not invariable. The one symptom may occur without the other, and *vice versâ*. Indeed, the proportion of those with conjunctival xerosis who suffer from night-blindness varies according to time and place, and, for that matter, in the same place at different times. Thus, among eighteen cases of xerosis seen by me in 1895 at one of the largest London poor-law schools no fewer than 61 per cent. were more or less blind at night, whereas during 1896 and 1897, when nine cases of xerosis were respectively found, definite night-blindness appeared to be altogether absent.

At the same time, xerosis and night-blindness occur so often side by side that, as several authors have remarked, the association between them is likely to be something more than merely coincidental. Indeed, I shall now endeavour to show that the connection is much closer than is generally supposed.

In the course of investigations undertaken some years ago (1) I found that in children with xerosis, but without ascertainable night-blindness, there existed changes in the visual fields. These were of two kinds, viz. constant and inconstant. The former consisted in a reduction for the red and green fields. But that was not all, for the field for red is more shrunken than that for green, so that the former lay inside the latter, whereas under normal conditions the reverse should, of course, be the case. In three-fourths of the patients examined with reference to this point the transposition was complete, but in the others the two fields overlapped at one or more places. The second or inconstant change lay in a slight contraction of the limits of the field for white. In contra-distinction to this observation, Hepburn, in a recent communication (3), dealing with xerosis of the conjunctiva and night-blindness, states that in these cases "the fields of vision are invariably full," but Theodor Saemisch (6) mentions the occasional occurrence of the symptom.

Neither ring scotomata nor zonular defects were observed in any of my patients.

Now the changes in the visual fields, indicated rather than described above, may be found, as I have already said, in simple conjunctival xerosis as well as in xerosis associated with night-blindness, although they are more pronounced under the latter conditions. Moreover, the so-called "light minimum," as estimated by Förster's photometer, was diminished in both the conditions named. The obvious conclusion is that in both there exists a state of torpor retinae. In other words, every child with the conjunctival

changes is in a condition of potential night-blindness, although obvious symptoms of that ailment cannot be discovered on a mere casual examination.

Furthermore, during my investigations I found a third point of connection to exist between the two conditions in the shape of changes in the fundus oculi. Both in simple xerosis and in xerosis complicated with night-blindness the fundus presented slight departures from normal. Thus, the retinal reflexes were exaggerated, so that the fundus looked paler than usual; while, in addition, a semi-circular jagged reflex was often to be observed close to the inner side of the optic disc. These points, although under any circumstances somewhat intangible, were easier to appreciate when ophthalmoscopic examination was conducted under weak illumination with an undilated pupil.

Most of the affected children I have examined appeared on a first view to enjoy good general health. They were usually well-nourished, while not a few had bright and ruddy cheeks. Bitot (5) noted as a singular circumstance that in the epidemic described by him among the inmates of the Hospice des Enfants Assistés de Bordeaux the ailment affected those in rude health, and spared for the most part the many scrofulous and rachitic inmates sheltered by the asylum. A somewhat similar conclusion was reached by Cohn (7) in 1868, and was repeated only the other day by Malcolm L. Hepburn (3).

A more attentive examination of my own cases convinced me that to not a few the old name "strumous" might fitly be applied. Such appearances as otorrhœa, large tonsils, opacities of the cornea, eruptions about face and ears, swollen upper lips, nasal catarrh, enlarged cervical glands, and synovitis of the larger joints were common among them.

Besides this, I found that the children with xerosis conjunctivæ, with or without night-blindness, showed a deficiency in the hæmoglobin content of the blood; for example, in fifteen cases hæmoglobin averaged only 65 per cent. of the normal. When the conjunctival changes had disappeared, the proportion was found to have risen, but never to par. This observation led me to inquire as to the possibility of Gower's hæmoglobinometer (the instrument I employed) being over-standardised. On this point I was unable to obtain any satisfactory information, and with the assistance of Mr. G. C. Burton, then resident medical officer at the Queen's Hospital, the point was investigated in 164 children, whose ages ranged from a few months to fourteen years. In every instance the percentage of hæmoglobin

fell below 100. It averaged 76.62 per cent., was slightly greater in males than females, and bore no definite relation to age. The exact figures have been embodied in an appendix to the present communication. One fact stood out clearly, namely, that the percentage of hæmoglobin was lower in children with than without xerosis conjunctivæ. Among the former the average was 65 per cent., while among the latter it stood at 76.62 per cent.

The red blood-count ranged from 70 per cent. to 134 per cent., and averaged 80 per cent.

From all this it follows that in xerosis, with or without night-blindness, the relationship between red cells and hæmoglobin—the so-called “colour index”—is generally reduced. To put the matter in another way, a condition akin to chlorosis, as determined by the blood, exists in the cases we are discussing.

Can we bring the several facts enumerated into line as accounting for the cause of this curious affection? I believe that we can. In the first place it is significant that xerosis and night-blindness should occur only in poor-class children, and should make their appearance exclusively in summer and autumn. Again, as regards any given institution, it is a matter of familiar observation to those acquainted with the circumstances that the brighter the weather the greater is the number of cases. The dazzling of sunlight, indeed, appears to be the immediate cause, and this is doubtless intensified by the ingrained habit of institutional children, who persist in running about the airing courts of the poor-law school, which are generally paved with York flags, without any protection whatever to the head in the shape of caps or hats. Anybody who has ever visited one of those places during summer weather will bear me out when saying that the flagged yards reflect an uncomfortable body of light into the eyes, apart altogether from the direct rays of the sun falling from above. The reflection from the white-washed walls, so common in those institutions, also, is doubtless not without influence. That boys suffer more than girls, a point first brought out by Bitot, is probably due to the relatively greater freedom enjoyed by the first-named class. For my own part, I do not believe in a true sex-incidence of the disease.

The white patches are to be found only on that part of the conjunctiva which is exposed to light when the eyes are open. This suggests that under the influence of light or of some of its elements, the metabolism of the exposed parts undergoes an alteration, and thus allows the xerosis bacillus, an almost constant inhabitant of the conjunctival sac, to lodge upon the parts and to multiply to an enormous extent. Particles of keratin and of keratohyalin are found

pathologically in the altered epithelium, and this leads, as Stephen Mayou (2) has pointed out, to an alteration in the surface tension of the affected areas, in consequence of which the oily secretion of the Meibomian glands collects upon them in the form of a white foam.. But it is important to remember that the bacilli themselves play no part in the causation of the symptom-complex, although the contrary view has, of course, been held by more than one writer.

Last, but not least, the remote cause is to be sought in some slight defect of nutrition, as indicated by an alteration in the colour-index of the blood.

Finally, it should be said that recurrence is common in one and the same subject. Yet although this may happen during several successive summers, the ailment does not appear to entail any serious or permanent mischief, either as regards the eye itself or the body generally.

APPENDIX.

Estimation of hæmoglobin in 164 healthy children.

(Tested by means of Gower's hæmoglobinometer.)

Age.	Males.	Females.
1 year	83·5	75·0
2 years	73·3	—
3 „	70·0	73·0
4 „	73·3	75·0
5 „	73·8	76·3
6 „	74·0	76·4
7 „	74·0	73·7
8 „	79·0	75·0
9 „	77·7	75·2
10 „	78·3	82·4
11 „	76·3	72·0
12 „	91·0	80·4
13 „	81·8	78·4
14 „	77·0	73·0

Number of children examined 164 { Males, 88.

(ages 2 months to 14 years) { Females, 76.

Average hæmoglobin = 76·62 per cent., *i. e.* males 77·35 per cent., and females 75·83 per cent.

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- (5) BITOT.—‘Gazette Hebdomadaire de Méd.,’ 1863, x, p. 284.
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MEDIAN CONGENITAL FISSURES, FISTULÆ AND DERMOID CYSTS OF THE NOSE.

By J. HOWELL EVANS, M.A., M.B., M.C.H.Oxon., F.R.C.S.Eng.,
*Surgeon to the Prince of Wales's General Hospital; Late Hunterian Professor,
Royal College of Surgeons.*

It is in the fourth week of intra-uterine life—a period of marked organo-genetic activity leading to the rapid construction of the embryo—that the first trace of a nose is visible.

The human face is formed by the union of several processes which grow forwards—the unpaired fronto-nasal process and the paired processes for the upper and lower jaws.

By the growth of secondary processes from the fronto-nasal process and the subsequent union of the lateral secondary processes with the maxillary process the nasal cavity becomes separated from the oral cavity.

These various processes sometimes fail to unite—this failure of union may be complete or unilateral, and produces a varying series of “facial fissures or clefts,” but in this short paper I only purpose speaking of those irregularities of union, or rather, fusion, which are seen in the median line of the nose, *e. g.* incomplete fissures, fistulæ, dermoids. These fissures evidence the bilateral and symmetrical origin of the nose, and are generally observed as a sulcus at the distal extremity only, though observers have recorded a complete median fissure (Poland, ‘Pediatrics,’ 1896, i, p. 401). The pathology of the embryo is evidenced chiefly in deformities or local irregularities and variations, because deformity is essentially the consequence of the local perversion of physiological growth.

Connected with irregularities in the complete fusion of the nasal units we find short depressions or canals lined with skin. These occur at definite points in the median line of the nose, and are

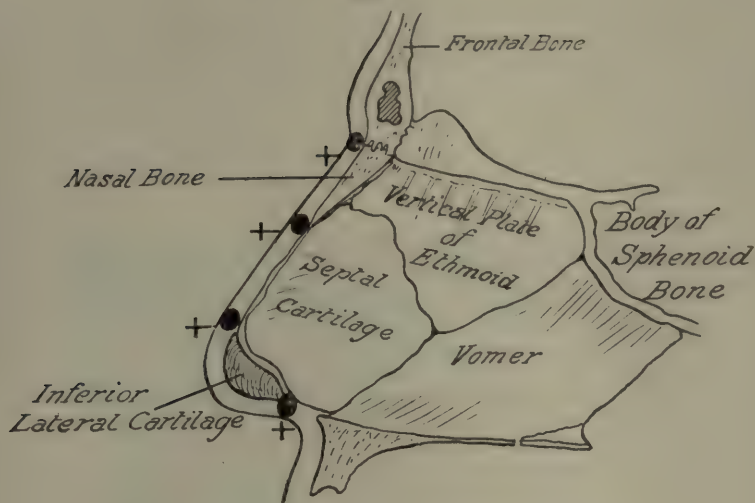


FIG. 1.—Median nasal fistula.



FIG. 2.—Median nasal dermoid.

FIG. 3.



- Situation of median dermoid cyst of the nose.
- + Situation of median dermoid fistula of the nose.



FIG. 4.—Median nasal fistula associated with dermoid cyst.

invariably situated at a little lower level than the corresponding cyst with which they may be associated or connected.

The co-existence of a median nasal fistula and a median nasal fissure suggests the question whether the occurrence of a fistula represents an incompletely closed fissure; undoubtedly the occurrence of a fistula in connection with a rounded swelling, whether



FIG. 5.—Median nasal dermoid cyst with overlying nevus.

situated in the median line of the nose or slightly to one side, clinically indicates the presence of a dermoid cyst.

Median fissure of the nose is less rare in some animals than in man; it may be viewed as the normal condition in some of the dogs employed in sport in this country.

As above mentioned, in cases of median nasal dermoid cysts, it is by no means uncommon to find a fistula leading upwards and backwards to the tumour; thus the closure of a fistula, including varying dermal elements, produces the dermoid.

At other times a free communication between the sacculæ and the

surface is shown by a secretion passing or expressible on to the surface.

Occasionally intra-nasal obstruction and a few rare cases of frontal sinusitis are due to dermoid cysts; analogous conditions—as I pointed out in the 'BRITISH JOURNAL OF CHILDREN'S DISEASES,' 1910, vii, p. 496—occur in relation to congenital cholesteomata of the internal ear.

But as these clinical features of the congenital irregularity only arise during adolescence and adult life I shall not consider them further on this occasion.

Whenever a *navus* of the median line of the nose is associated with a rounded swelling which is incompletely compressible the clinician should expect to find a dermoid cyst present, and must not be totally unmindful of a meningocele.

I have not entered into the causation of these interesting anomalies, as the various hypotheses and theories connected with fistulæ and dermoid cysts will be found in a treatise shortly to be published; neither have I sought to meander into the physiognomist's fields of speculation, but in this short introductory article I have written in relation to certain embryological and anatomical points illustrated by definite clinical cases.

SURGERY AND ELECTRO-THERAPEUSIS IN INFANTILE PARALYSIS: AN ATTEMPT TO DEFINE THE SPHERE OF EACH.

By FRANCIS HERNAMAN-JOHNSON, M.D.Aberd.,

*Radiographer to the Bishop Auckland District Hospital, Durham;
late Surgeon, Royal Naval Hospital, Plymouth.*

DURING the past twelve months it has scarcely been possible to pick up a medical paper without finding some reference to infantile paralysis. These references are, however, almost exclusively concerned with the acute stage of the disease. The experiments of Flexner and Lewis have proved the transmissibility of the virus concerned, and certain small epidemics in this country have turned the attention of our health authorities to a new field of labour. In the midst of all these activities directed towards a particular phase of the malady, there would appear to be a risk that the interests of the patients, once they are declared free from infection, may be to some extent neglected. Yet it is morally certain that for at least

another generation we shall have with us youthful cripples who owe their deformity to this cause. There is no immediate prospect of the discovery of a curative serum; and, as to isolation, if we are to judge from its effects as hitherto practised (for example, in the case of scarlet fever), this measure will not in itself suffice to check the epidemic spread of the disease, much less to prevent its sporadic appearance. Again, while scarlatina is well known to the public, and its rash looked on as a danger-signal, the constitutional symptoms of infantile palsy are often slight, and in many instances a doctor is not called in until the acute and infectious stage is long passed. Despite recent advances, then, the question as to the best method of dealing with the *sequelæ* of the disease remains of the utmost importance.

In former days it was the custom to take chronic cases either to the electro-therapist or to the nerve-specialist. These gentlemen seldom called in surgical aid. Now, the pendulum has swung violently, and such patients are generally brought to the orthopædic surgeon. He, likewise, regards his own methods* as all-sufficing. The truth is that neither, unaided, is competent to deal with every case. The disease in its chronic stage in reality presents two separate problems for solution—a vital and a mechanical. Surgical methods cannot stimulate sluggish nerve-cells, any more than electricity can correct a deformity due to permanent contracture.

In order to treat infantile paralysis on scientific lines, it is essential to know something of its pathology. That the malady is of the nature of an acute fever, having its local manifestations in the central nervous system, just as pneumonia has its focus in the lungs, is generally admitted. As to the precise nature of the causative organism, whether it be an ordinary coccus or something ultra-microscopic, we need not at present trouble to inquire. From the point of view of prognosis and treatment it is more important to know the nature of the lesion produced. The older view was that the mischief consisted in an inflammation arising in, and practically confined to, the large motor-cells of the ventral horn of the spinal grey matter. Hence the term “anterior poliomyelitis”—a name which can no longer be said to explain the modern conception of the nature of the disease; for recent investigation has shown that, on the one hand, the inflammatory condition involves the whole of the grey matter, sometimes even the meninges; while, on the other,

* The employment of massage, exercises and apparatus is taken for granted in both cases, as no one who has to deal with infantile palsy would be so foolish as to neglect their aid.

it is the *blood-vessels* which are primarily concerned, the nerve elements suffering indirectly from pressure or starvation. The electro-therapeutist has long held, from clinical observation, that an attack of infantile palsy, while utterly destroying many cells, leaves others, as it were, in a state of suspended animation, from which they can be aroused only by electrical stimuli. The fact that the motor neurons are not attacked *ab initio* furnishes a pathological argument in favour of this view.

In most writings on infantile paralysis attention is devoted almost exclusively to the effects of the disease on muscles and their governing nerves. Sensation is stated to be unaffected; but, as I have shown elsewhere,* in severe cases the pain sense, and less frequently the capacity to distinguish heat and cold, are liable to be impaired. Were these the only other elements concerned, neglect to emphasise their involvement might not matter much from the clinical point of view; but lack of attention to the effects of the disease on *growth* and *development* is responsible for many therapeutic failures. That muscular palsy is often accompanied by a general shrinking of the affected limb is well known; what is not so generally recognised is that any of the following variations may occur:

(1) The limb may be considerably smaller than its fellow without much impairment of its motor functions..

(2) With severe palsy the limb may nevertheless remain of normal length, keeping pace with the sound side.

(3) In the case of a diseased upper segment—say a thigh—the lower segment (leg) may grow *longer* than the corresponding portion of the undamaged limb.

These facts would seem to be most readily explained by assuming the existence of separate spinal cells controlling growth and development, capable of suffering either more or less than the surrounding motor cells, or even of being stimulated into abnormal activity. Whether or not this be so, the control of growth is, if not physiologically, at any rate clinically separable from that of movement. Hence, treatment directed solely to mechanical ends—whether by correcting deformities or strengthening individual muscles—cannot of itself suffice for the requirements of all cases.

In the opinion of the present writer, every case of chronic infantile palsy should be taken in the first place either to the electro-therapeutist, or to the neurologist who makes use of electrical methods in his treatment. It is for them to determine, so far as

* 'Med. Press and Circ.,' 1910, ii, p. 187.

may be, what muscles are beyond hope, and to what extent recovery may be expected in the rest. In electricity we have the only agent capable of stimulating defective growth; this fact alone places those who use it with skill in a position of peculiar strength. But it is incumbent upon the physician in this, as in so many other branches of medicine, to know his own limitations, and never to let a false pride prevent him calling in the aid of his surgical colleague.

As regards the remedial measures to be employed, cases of chronic infantile paralysis are divisible into four groups: (*a*) Where surgical treatment is useless; (*b*) where some operative procedure must be undertaken before other methods can be of value; (*c*) cases in which surgery offers the only hope of improvement; (*d*) a large group consisting of border-line cases, where medical treatment should be given a reasonable trial.

The following is an example of the first class:

A girl, aged 9 years, had suffered from an attack of infantile palsy at the age of three years. The right lower limb was at first completely disabled, but eventually recovered to a considerable extent. Walking was possible for short distances, but was followed by such severe aching pain that the child was practically confined to the house. The limb was somewhat shrunken, there were two inches of relative shortening, and all the muscles of the thigh and hip were markedly parietic (Fig. 1). The daily application of the faradic current for three months completely restored the functions of the limb, and the child can now walk for miles without fatigue. A year after the cessation of treatment the leg was almost as stout as its fellow, and the relative shortening, which had previously become steadily worse, was reduced to one inch (Fig. 2).

This patient, before coming to me, had received a long course of massage combined with sea-bathing. It had not been possible, however, to employ exercises, as the slightest exertion caused the characteristic dragging pain. For the use of apparatus there was no field, nor yet any call for surgical interference. One is therefore justified, I think, in claiming that in cases of this type electricity is the only agent capable of accomplishing a cure.

We may ask, under what circumstances is a surgical operation necessary before other measures can be effective? A girl, aged 6 years, was brought to me suffering from the after-effects of an attack of infantile palsy in the left lower extremity. Contractures of the flexors of the hip, combined with shortening of the gastrocnemius, had contorted the limb till it was quite useless, and locomotion was possible only by the aid of crutches. I called in

Mr. F. C. Pybus, of Newcastle-on-Tyne, who divided the necessary tendons. Even after this the leg could not be pulled straight, and there was no voluntary power to extend the thigh in the pelvis. Faradic reaction in the glutei was at first only obtainable with very strong currents under an anæsthetic, but persistent treatment for three months enabled the patient to swing the limb normally from the hip. A boot was devised to support the still weakly knee-joint, and the child now *walks* with the aid of a stick

FIG. 1.



FIG. 2.

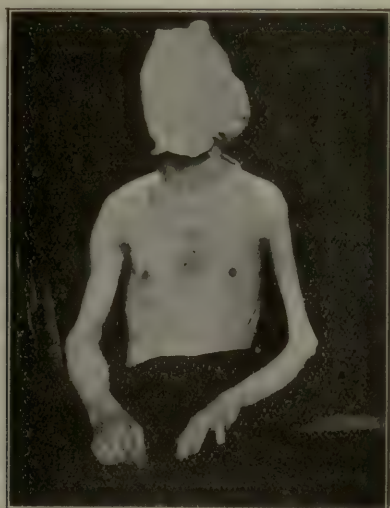


only. I have not space to go into the details of this very interesting case, but I would like to make this comment on it: that it belongs to a type which, if properly treated from the first, should never need the ministrations of the surgeon. For contractures and deformities are *preventable*, in the first place by suitable apparatus, and secondly, by the stimulation of those muscles which by their weakness permit of over-action on the part of healthy opponents.

Fig. 3 illustrates a case where surgery offers the sole hope of betterment. This man, aged 28 years, has the left biceps, triceps, and most of the deltoid reduced to thin sheets of fibrous tissue. The hand is capable of grasping, but is practically useless owing to the condition of "flail elbow." Some operation designed to immobilise the joint in a semi-flexed position may prove of benefit.

There remains a large number of cases in which it is at first impossible to say whether or not surgical procedures will be necessary. Every muscle not hopelessly fibrosed should be given a course of electrical stimulation; and this stimulation should be persisted in for at least three months. On the other hand, the lengthy periods mentioned in some text-books on electro-therapeutics—two years and upwards—are for the most part beyond what is practicable, and seldom likely to be of much benefit. Cases which may ultimately have to be handed over to the surgeon are those in

FIG. 3.



which, owing to persistent paralysis of some important muscle or muscles, a useful result cannot be obtained even with the aid of apparatus. The procedures open are—(1) tendon-grafting; (2) nerve anastomosis; (3) arthrodesis. For a description of these the reader is referred to special surgical works. They are highly complicated operations, and their performance should not be lightly undertaken by anyone not familiar with this particular work.

Before giving his consent to operative interference the physician should, however, get the surgeon to explain in a general way what it is he purposes attempting. If tendon-grafting is to be employed he should ask himself whether the “reinforcing muscle” is likely to be strong enough for its new work. He should also try to determine—in the case, say, of a wasted lower limb—how much of

the existing disability is due to general flabbiness, and how much to the lack of the particular movement which it is proposed to restore. Unfortunately, as is only too well known to those who have to do with the designing of apparatus, the correction of some glaring fault does not always produce the benefit which might have been anticipated.

As to nerve anastomosis, the ultimate results seem to be in many instances beyond the wit of man to foretell, and while this operation may have a future before it, at present it should be looked upon as a *dernier ressort*.

Nor should arthrodesis—the artificial locking of a joint—be undertaken hastily. The union is not seldom so weak that supporting apparatus is permanently necessary; and in the case of some articulations, such as the knee, the resulting stiff limb is extremely inconvenient to the patient.

In conclusion, it may be of service to inquire why the surgeon and the electro-therapist so often look upon each other with mutual distrust. I will first state what I believe to be the surgeon's reasons for regarding his colleague with scant approval. Briefly, it is because he sees cases treated in the electrical department which could obviously benefit by such treatment, if at all, only after a preliminary surgical operation. And, further, because many cases, even where no deformity exists, do not seem to derive much benefit although treated for several months. The electro-therapist also has to pay the penalty for extravagant claims made in the past. In the article on "Infantile Spinal Paralysis" in the 'Medical Annual' for 1899 occurs the following statement: "Electricity is the only remedy of value in this disease; it should be employed in the form of the continuous current; Faradism is useless." Such narrow-mindedness on the part of its exponents, combined with faulty selection of cases, unskilful technique and lack of personal supervision, has brought much undeserved discredit upon electrical treatment, whether directed to infantile paralysis or to disease in general.

Coming, now, to the other side of the question, it is possible to frame a very grave indictment against the surgeon. The head and front of his offending is that he condemns what he does not understand; and despises the opinion of men who have made a life-study of therapeutic methods which certainly do not call for less intelligence than does the exercise of his own craft. The authors of a well-known work—excellent in so far as it deals with the details of operative procedures—take upon themselves to discredit electricity.

Speaking of *massage*, they say: "The mother, nurse, or maid can in a few minutes be taught all that is necessary to be learnt." Now, if the electrical technique of the writers has been acquired with a like phenomenal rapidity, we need perhaps seek no further for an explanation of their views.

The tendency of the surgeon is to take a purely mechanical view of the non-functioning of a paralysed limb. He does not even pretend, so far as I know, that any of his methods will *stimulate the growth of a limb as a whole*. Before considering seriously his denial that electricity can arouse torpid nerve-cells, one is entitled to ask, Is he familiar with the experiments of Debedat with faradic currents on growing rabbits? Has he watched X-ray treatment of cancerous axillary glands, and noted the enormous development of the arm on the affected side? The experiments of Lazarus Barlow and others have proved that radium can stimulate the growth of animal cells. Does the surgeon know that by the method of Haret radium ions can be driven through the bone into the spinal marrow? Above all, has he studied carefully, and without prejudice, the records of cases treated solely by the electro-therapeutist?

The answer to these questions must frequently be a negative one. I hasten to add, and do so gratefully, that many eminent surgeons are ready to investigate impartially any line of treatment which promises benefit to humanity, even though it runs counter to their own previously expressed views. With such the electro-therapeutist should seek to work in harmony; for it is only by the whole-hearted co-operation of surgeon and physician that many crippled patients can be restored to usefulness and health.

ANEURYSM OF THE DESCENDING BRANCH OF THE RIGHT CORONARY ARTERY, SITUATED IN THE WALL OF THE RIGHT VENTRICLE, AND OPENING INTO THE CAVITY OF THE VENTRICLE, ASSOCIATED WITH NON-VALVULAR INFECTIVE ENDOCARDITIS AND DILATATION OF THE RIGHT CORONARY ARTERY.*

By R. SALUSBURY TREVOR, M.B.,
Pathologist to St. George's Hospital, London.

A GIRL, aged 11 years, was admitted into St. George's Hospital on September the 4th, 1911, under the care of Dr. Latham.

* Specimen shown at the Section for the Study of Disease in Children of the Royal Society of Medicine, October the 27th, 1911.

The history of the case was as follows: Seven days prior to admission she caught a "chill" while bathing. This was followed by a rigor, sweating, and pain in the left knee. For three days prior to admission there was soreness of the throat, and the legs became swollen. The only previous illness was measles six years ago.

On admission the child was flushed and restless, with a temperature of 102° F., pulse 108, and respiration-rate 28. There was no pain in, or swelling of, the legs. The heart's apex beat was diffuse, in the sixth space, 1 in. external to the nipple line. The area of cardiac dulness extended 1½ in. to the left of the nipple line but not to the right of the sternum. A rough systolic mitral murmur and thrill were present. The murmur was best heard 1½ in. internal to the nipple line. The lungs and abdomen were natural.

On September the 8th, four days after admission, a red, tender swelling appeared at the right great toe-joint. There was no reaction to salicylates. Temperature 104° to 105° F. The heart condition was as on admission.

On September the 11th streptococci were found in the blood and a vaccine was prepared. Polyvalent serum was given in the meantime.

On September the 14th a to-and-fro cyclical murmur, which was very rough and scratchy, became audible, and was best heard over the tricuspid area, but was conducted over the entire præcordium.

On September the 16th there was evidence of rapid dilatation of the heart, temperature remaining about 104° F.

On September the 19th the patient died.

The diagnosis made was infective endocarditis and pericarditis.

I examined the body thirteen hours after death. It was fairly well nourished. The legs were slightly œdematous. There was bilateral sero-fibrinous pleurisy with a small quantity of turbid effusion in each pleural cavity. Both lungs overlapped the pericardium, to which the pleura was lightly adherent. Both lungs were œdematous and contained numerous septic infarcts. There was general bronchitis. The infra-tracheal and bronchial glands were free from tubercle. In many of the intra-pulmonary branches of the pulmonary artery there were tough adherent ante-mortem clots. The pericardium was normal. The heart weighed 10 oz. and was rounded in shape. Both ventricles were dilated, the right one being especially so. The muscle in the fresh state was cloudy and pale. The heart-valves were free from vegetations, and they were all thin and flexible, with the exception of the posterior flap of the mitral, which showed slight thickening. In the cavity of the right ventricle, just to the inner

side of the anterior papillary muscle, was an adherent mass of clot, guarding at its lower end a rounded or oval opening, with a maximum diameter of $\frac{1}{4}$ in., leading into the interior of a prominence on the postero-lateral wall of the ventricle. The edges of the opening were rough, and the surrounding endocardium appeared ulcerated. The prominence was caused by a thin-walled fusiform aneurysm of the descending branch of the right coronary artery, situated within the muscular wall of the right ventricle. The sac was of about the size of a damson or a small plum, and the lining membrane bore some rough adherent clot at its upper part and was ulcerated below at the opening into the right ventricle. The right coronary artery was remarkably dilated. Its opening in the right sinus of Valsalva measured $\frac{1}{2}$ in. across and admitted the little finger easily, and the lumen continued of large size to the point where the descending branch was given off. Beyond this point the lumen ended almost blindly, two fine holes indicating the continuation of the vessel along the auriculo-ventricular furrow. The artery showed no evidence to the naked eye of any acute inflammatory change, nor was acute endarteritis present on histological examination. The left coronary artery was normal at its commencement and showed no obvious dilatation. The aorta above the valves showed a few patches of atheroma. Its branches were given off normally, and no abnormalities in the rest of the vascular system were discovered. The abdominal organs showed cloudy swelling, and there was no ascites. The right knee-joint was healthy; the right great toe-joint was unfortunately not examined.

Aneurysm of the coronary arteries of the heart is an uncommon lesion, and one which in consequence receives but scanty treatment in the text-books. This is the first case which has occurred during the last ten years in St. George's Hospital among a little over 3000 post-mortem examinations.

In the 'Transactions of the Pathological Society' there are records of three cases, two being cases of multiple aneurysms, and one of a single aneurysm of the left coronary artery in a man, aged 50 years. In this case the artery showed extensive calcareous changes and the aneurysm was practically filled with clot. In the case described the physical signs suggest that the communication of the aneurysm with the right ventricle occurred five days before death, and coincided with the onset of the to-and-fro murmur which was thought to have been due to pericarditis. The date of the occurrence of the aneurysm itself can only be a matter of speculation. The impression which has been left on my mind is that it is of old date. It is on

the whole smooth-walled, but the wall is remarkably thin. No communication between the artery and any of the cardiac veins can be made out.

With regard to the remarkable dilatation of the coronary artery itself, it does not seem probable that this can date from the time of rupture of the aneurysm into the ventricle. Yet it seems certain from the differences of pressure within the two ventricles that at this time the blood must have passed from the left ventricle *viu* the coronary artery into the right ventricle, and this being so, it may be that there was a larger blood-flow through the artery. This may have led to dilatation; but the length of time, viz. five days, does not seem sufficient to have allowed any dilatation to have assumed the size found post mortem.

The only other explanation I can offer is that the artery was anomalous at birth. If this were so, it would favour the entrance into it of septic emboli, which might perhaps account for the aneurysm found. The condition present produced clinically a murmur in many respects similar to that associated with persistent ductus arteriosus.

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Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, October the 27th, 1911.

Dr. G. A. SUTHERLAND, *President, in the Chair.*

A Case resembling General Paralysis of the Insane.—Dr. PORTER PARKINSON showed a girl, aged 9 years. The mother had had several miscarriages. The child had had no previous illness except slight snuffles in infancy. About four or five months ago she was noticed to be walking badly, especially on the right leg, and occasionally turned giddy and faint. From being a good-tempered child she became very irritable and spiteful. Her speech was indistinct, and her mental processes slow. There were none of the stigmata of hereditary syphilis except the remains of an iritis from which she suffered three months ago. The pupils were unequal, and their reaction to light and accommodation sluggish. The movements of the limbs

were unsteady, but there were no tremors of the hands, lips or tongue. Romberg's sign had been present, but at the present time she could stand with the eyes closed. The Wassermann reaction was positive in the blood, but negative in the cerebro-spinal fluid. A distinct improvement followed mercurial inunctions.

The general opinion was that it was impossible to state definitely whether the case was one of general paralysis of the insane, or one of diffuse cerebral syphilis.

Two Cases of Partial Subluxation of the Knee-joints with Voluntary Production of a Noise during Flexion and Extension.—
Mr. O. L. ADDISON.

CASE 1.—Boy, aged 9 years, an undersized child. Marked genu valgum, exostoses at upper end of both tibia, and hyperextension of both knees. Flattening of chest, beaded ribs, and enlarged epiphyses at wrists. Breast-fed child; quite well till four years ago; since then has had recurrent attacks of bronchitis, measles, and pneumonia two years ago. The legs were only noticed to be crooked two years ago, and have been getting worse since.

CASE 2.—Girl, aged 6 years, breast-fed. Healthy till two years of age. Since then she has had frequent attacks of bronchitis, measles, and pneumonia two years ago. Legs became bent after measles, and have been much worse lately. Patient shows a condition like that of the brother, except that the genu valgum is not so great, no exostoses are present, and the noise produced in the knee-joints is not so loud.

Infantilism.—Dr. G. A. SUTHERLAND.—Girl, aged 16 years. She seemed normal in every way until the age of six years, when growth ceased, rickets appeared, and constipation became very marked. Teething was normal as regards time, but the teeth were very soft and crumbled away. Measles at the age of two years. The rickets led to a waddling gait and much bending of the bones, for which she has been at an orthopaedic hospital.

(a) Infantilism: Appearance, talk and intelligence that of a child of six years. Only two teeth of second dentition.

(b) Persistent rickets: Bones of extremities much distorted, epiphyses thickened, chest rachitic.

(c) Abdomen very large and superficial veins prominent. At times peristaltic waves visible in the region of the colon. Bowels do not act without enemata or aperients. Great faecal accumulation takes place, palpable over whole of abdomen when bowels not carefully regulated.

(d) Urine: Specific gravity 1000 to 1005; no albumin or casts; occasionally marked retention of urine without discomfort; polyuria; polydipsia; radial and brachial arteries thickened; arterial pressure, 120 mm.; no retinal changes; skin pigmented; heart somewhat dilated, but no marked accentuation of sounds. Wassermann reaction negative.

Extreme Rickets and Infantilism.—Dr. G. A. SUTHERLAND.—Girl, aged 6 years. Child was born healthy, and fed on the breast for eight months: after that cow's milk and water and bread. Had a fright at the age of $2\frac{1}{2}$ years and since then never strong. Has had measles and attacks of diarrhoea. Five other children in the family said to be healthy.

Child was in an extremely neglected condition when admitted, very

exhausted, lethargic, and suffering from constant cough. Physical development was much retarded, her appearance being that of a child of three years. Marked rachitic changes in the bones of the upper extremities and of the thighs. Greenstick fracture of both bones of right forearm. Both scapulæ are small: show thickening of bone in lower part, and bending at inferior angle. Some of the upper ribs are subluxated from their costal cartilages and displaced backwards. Marked spinal curvature. Heart displaced, apex felt in upper part of left axilla. Abdomen contains some free fluid. Deficient entrance of air and impaired resonance right lung, and some scattered bronchi over both lungs. Von Pirquet's reaction negative. Fingers clubbed. Great sweating, especially about the head.

Sclerodermia with Myositis Fibrosa.—Dr. LANGMEAD.—The patient, now aged 1 year 8 months, was shown before this Section just twelve months ago, and is reported in the 'Proceedings' for November of last year. Since birth, or shortly afterwards, the skin has been noticed to be tense and hard, and the movements of the body, especially of the limbs, to be greatly restricted. She cannot completely close her eyes at times, whilst the mouth is usually open. The usual expressionless aspect of sclerodermia is present. Sclerodactyly is marked. The muscles are rigid also, and feel like leather bands, accounting for much of the fixity of the limbs. During the last twelve months she has grown considerably, and has seemed well in general health. The condition seemed to be improving until August, when she developed pneumonia, the result of which has been to accentuate it, as far as can be determined by examination.

Sclerema.—Dr. LANGMEAD.—Girl, aged 10 months, shows the more common type of hardening of the skin and subcutaneous tissues found in infants. She is the only child. The father is blind, and aged 37 years; the mother, aged 40 years. She was first brought to the hospital when aged 7 weeks for persistence of the posterior fontanelle, which was widely patent, and a patent occipital suture. These have now closed. In June last a brawny condition of the cheeks and legs was first noticed which has persisted since; it followed an attack of severe diarrhœa.

Intra-uterine Fracture of Tibia and Fibula, with Absorption of Bone.—Mr. MAYNARD HEATH.—Baby, aged 4 weeks. At birth the left leg was noticed to be shorter than the right below the knee. On examination the shortening is very obvious. There is a bowing forward of the leg at the junction of lower and middle thirds and a corresponding groove in the soft parts on the posterior aspect. The bones in the situation of the prominence can be felt to be irregular and there is free mobility between the upper and lower portions of the leg at this point. The circulation in the foot is good, and there are no other deformities. The child was born head first without much difficulty, and no structure was found constricting the leg. X rays show a fracture of the shaft of the tibia, with a considerable area of rarefied bone around it. There are similar areas of rarefaction about the lower extremities of the tibia and fibula.

Gigantism of Forepart of Foot.—Mr. MAYNARD HEATH.—Girl, aged 6 years. At birth a deformity of the right foot was noticed. At the age of three months the enlarged second toe was amputated. Since then the forepart of the foot has grown more than the rest of the body. The great

toe is now deflected inwards but not much enlarged. The third toe is very large and deflected outwards. Between these two toes is a rounded, elastic, firm swelling, more pronounced on the sole than the dorsum, and in the former situation extending almost to the middle of the foot. At the summit of the swelling is the scar of the previous operation. There are no other deformities and no history of similar overgrowth in any members of the patient's family.

Double Third Nerve Palsy due to Acute Polio-encephalitis in a Boy, aged 7 years.—Mr. PAYAN DAWNAY.—The illness commenced about the third week in August with vomiting, fever, constipation and some delirium at night. He was ill for about a fortnight. He was said to have told a playmate just before he was ill that he saw double. When Mr. Dawnay first saw him on September the 9th the condition was as follows: Marked ptosis on both sides, elevation of the lids only by the action of frontalis, no power of elevation or depression of the globes, fair lateral movements with complaint of occasional diplopia to the right. Pupils equal and active directly and indirectly, no paralysis of accommodation. There were no other signs of paralysis.

Recurrent Unilateral Œdema in a boy, aged 14 years.—Dr. T. R. WHIPHAM.—For the last three or four years the right leg had swollen once a year, generally in the month of September. There had been twice swelling of the right arm, but not at the same time as the leg was affected. In the recent attack the right leg and foot were swollen and the right side of the face was a little puffy. On the inner side of the calf was a purpuric patch, giving the sensation to the fingers of obstructed lymphatic vessels. The extremities were all cold and of a bluish colour, these features being especially marked on the right leg. The right hand was a little puffy. The viscera were normal, the urine contained no albumin, and the temperature has been normal throughout.

The following pathological specimens were shown:

Diphtheria of Œsophagus.—Dr. J. D. ROLLESTON.—Boy, aged 2 years 4 months, was admitted moribund to hospital on October the 14th, on eleventh day of disease, and died in seven hours. No antitoxin had been given, diphtheria not having been diagnosed until day of admission.

Condition on admission: Profound toxæmia, pulse imperceptible, temperature 97·6° F. Old membrane visible on tonsils, uvula, and epiglottis, pronounced oral fetor, profuse blood-stained nasal discharge. Slight stridor, croupy cough, and recession. Upper part of right external ear swollen and excoriated. Sloughing wound just below left external malleolus. Cultures of throat, ear, and wound all showed abundant Klebs-Löffler bacilli.

Specimen of Œsophagus: Upper third normal; middle third shows some injection of mucosa; in lower third are two longitudinal areas of necrosis measuring each 3·5 cm. in length, coalescing below, where they measure 2·2 cm. in width, and stopping just short of the lower end of the Œsophagus. In the centre of one of the areas the muscular wall of the Œsophagus is exposed. Direct smears and cultures from the necrotic areas showed numerous Klebs-Löffler bacilli.

(1) **Aneurysm of the Right Coronary Artery, situated in the Wall of the Right Ventricle, and opening into the Cavity of the**

Ventricle, associated with Non-valvular Infective Endocarditis; (2) Congenital Morbus Cordis (Cor Biatrium Triloculare).—

Dr. SALUSBURY TREVOR.—The specimen was obtained from the body of a male infant aged 4 days. The child was of good colour and showed no evidence of disease during its short life. It died suddenly in a fit.

The principal anomalies shown were: (1) a single ventricular cavity formed largely from what should be the right ventricle; (2) a single auriculo-ventricular valve with three flaps communicating with the right auricle; (3) a single main arterial trunk taking the course of the aorta and giving rise to the right and left pulmonary arteries, the innominate, left common carotid and left subclavian arteries; (4) a very large right auricle with patent foramen ovale; (5) a rudimentary left auricle communicating with the right auricle, but not with the single ventricle, and receiving two sets of veins fused into a single trunk from each lung.

On Cases of Night-blindness with peculiar Conjunctival Changes in Children.—

Mr. SYDNEY STEPHENSON.—This paper dealt with a curious class of case not uncommon during the summer months in institutional children, where white frothy patches on the ocular conjunctiva were or were not associated with symptoms of night-blindness. The author had found that under either circumstance the field of vision manifested slight changes, the light minimum was diminished, the fundus oculi showed changes, and lastly, the colour-index of the blood was lower than normal. Mr. Stephenson believed the immediate cause of both affections was the dazzling of sunlight, and their remote cause some slight defect of nutrition, as evidenced by the changes he had found in the blood.

Philadelphia Pediatric Society.

October the 10th, 1911, J. TORRANCE RUGH, M.D., President.

DERMATOLOGICAL DEMONSTRATION.

Dr. LEONARD D. FROSSELN, by invitation, demonstrated microscopic specimens of the causes of various skin diseases. He said that in cutaneous disease, as in internal constitutional affections, the keynote to successful management lay in the ætiology. Whereas the specific causes of many diseases, *e.g.* typhus fever, was still obscure, and the ætiology of psoriasis, pellagra, morbilli, rubella, variola, and varicella was still under discussion, the offending agent in favus, pediculosis, scabies, tinea, equinia, anthrax, actinomycosis, syphilis, etc., had been found. Scrapings had been made with a view of determining the cause of measles and chickenpox without success.

Saprophytic bacteria, moulds and animal parasites entered into the ætiology of various skin lesions, *e.g.* Fehleisen's streptococci in erysipelas; staphylococci in pyosis, acne and furunculosis; tubercle and lepra bacilli; blastomyces fungus; Vincent's organisms on mucous membranes; Klebs-Loeffler's bacilli; Ducrey's bacilli in chancreoid infections of skin and mucous membranes; wood-ticks, mower's mite, bot-fly, fleas, mosquitoes,

jiggers, bedbugs, and the *Pediculoides ventricosus*, which caused the "straw itch." The last animalcule was found in the siftings of new mattresses. Several moulds and animalculi were shown, particularly trichophytosis and pediculosis (better termed phthiriasis). The *Acarus scabiei* belonged to the Sarcoptes family, was quite small, and very difficult to demonstrate. There were various forms of the trichophyton fungus (ringworm), large spore, small spore of Sabouraud, *Microsporon Audouini* in ringworm of the scalp, the ectothrix found in the cat. The fungus had many rods with swellings, mycelia and spores, $\frac{1}{1000}$ to $\frac{1}{600}$ inch in diameter. *Microsporon furfur* was the cause of tinea versicolor, which was rare in children. These mycelia were slender and branched, and the spores measured $\frac{1}{600}$ to $\frac{1}{300}$ inch in diameter. The *Achorion Schoenleinii*, the cause of tinea favosa (favus), was discovered in 1839 by Remak. Quinke and others spoke of several varieties. The spores were about $\frac{1}{1000}$ mm. in diameter, and could be seen with 300 to 500 diameters. The threads were broader and joints more numerous than in ringworm. Some observers found it difficult to distinguish between them.

Pediculi ranged from 1 to 3 mm. in length. There were three varieties: pubic louse, the smallest; head louse, the nits of which hatched in three to eight days; and body louse, largest, with nits hatching in about six days.

Dr. FRANK CROZER KNOWLES presented eight cases—one extensive vascular nævus, two cases of ringworm of the scalp, four cases of psoriasis, and one of urticaria pigmentosa. The vascular nævus showed the excellent result obtained by the application of carbonic acid snow. The infant, aged 4 months, was born with a large vascular nævus, involving half of the forehead, the nose and upper lip, including the mucous membrane. The snow, which had a temperature of 79° C., was collected in a chamois bag, and hardened under pressure into a mould conforming to the area to be treated. Four treatments had been given, varying from ten to fifteen seconds, with fairly firm pressure. The face was almost entirely cured, only three or four very small areas of vascular lesions remaining. The site of the vascular nævus now showed a smooth, thin, white scar.

Two patients were exhibited with different types of ringworm of the scalp—the non-inflammatory and the inflammatory. The former, tinea tonsurans, was caused by the *Microsporon Audouini*, the other, tinea kerion, was produced by the large-spored variety of the trichophyton. When other remedies failed X rays could be used, a Sabouraud-Noiré pastille being used as the indicator of the correct dosage, or a fifteen-minute exposure to the X rays should be administered, the tube being fairly soft, and eight to ten inches from the area should be treated.

It was unusual to be able to present four cases of psoriasis in early childhood, each with extensive and active eruptions. One was only three years old. Another unusual feature was the occurrence of this condition in a brother and sister, each in the active stage. All four were typical cases in form and distribution.

Urticaria pigmentosa was a rare disease. Dr. Knowles had seen four cases in over twenty thousand skin eruptions observed during the last nine years. The condition usually started in early life, being first noticed as a typical attack of urticaria of chronic duration. Pigmentation remained, however, at the site of the attack. Prince Morrow, of New York, had had such a case under observation for over twenty years. In the present case, a girl, aged 8 years, the eruption had lasted eighteen months. She had a number of pigmented spots, sites of former urticaria wheals, on the chest

and upper portion of the back, somewhat generalised in distribution. The tendency to wheal formation had practically ceased under careful regulation of the diet and remedies correcting the gastro-intestinal symptoms. Wheals, however, could be readily produced by stimulating the skin with a blunt instrument. Itching had been intense, but had been much improved by the application of anti-pruritic lotions and dusting powders.

Dr. WILLIAM PENN VAIL showed two cases of scabies. He said that scabies was a widespread parasitic disease, affecting all ages, both sexes, over the entire world. It was seen in dispensary practice in larger numbers than in private work, being the most frequent skin disease seen at the St. Louis clinic, Paris. It was caused by the presence in the deeper part of the corneal layer of the epiderm of the *Sarcoptes scabiei* or *Acarus scabiei*, an animal parasite, whitish and shiny in colour and rounded. While the female mite was visible to the naked eye, the male was smaller. Females were much more numerous than males, and when fecundated penetrated into the epiderm, making a burrow in which they deposited ova, from six or nine up to thirty in number. The mite could not retreat because of several bristling hairs projecting from her body; she died in the burrow. The eggs matured in a few days, and the resulting larval forms emerged upon the surface and became sexually active, were impregnated, burrowed, deposited ova and died, and thus the cycle continued. The life of the individual mite was said to be from two to three months. Males lived on the surface near the burrows, which were seen as grey lines persisting after washing, 2 to 3 mm. or more in length. The burrow rarely branched, but often had an undulating zig-zag form, at times like the letter S. The mite was often seen as a mere shining, white area at one end of the burrow. From this point she could be removed with a needle. Ova and dark faecal matter might be seen in the burrow. It was not always easy to find the burrow or to capture the mite, especially when there was much dermatitis, a variety of lesions, or eczema or impetigo also present. A great variety of lesions, papules, vesicles, pustules, crusts and perhaps furuncles, lymphangitis, suppurating adenitis existing side by side, generalised over trunk and limbs, were most suggestive of scabies. The location of the multiform lesions aided in the diagnosis, as the mite preferred parts where the skin was thin and soft. Thus the face and scalp of young children were generally exempt. The sites of election were the web and sides of the fingers, wrists, anterior surfaces of the forearm, under the breasts, on the prepuce and glans penis, about the umbilicus, the gluteal region, anterior axillary region, dorsum of the foot, about the malleoli, and in children the soles of the feet and palms of the hands. In addition there was always itching, much worse at night when the patient was warmly covered, for then the mite started to burrow. Scratchmarks, dermatitis and secondary infection followed. Inquiry revealed the presence of a similar case in the family or among the patient's friends. Often an entire family had the disease, for it was transmitted only by contact, direct or indirect. Scabies might be transmitted from horses, cats or dogs to man, but the parasite was of a foreign type and the malady was cured by cleanliness and medication. At first there was slight itching; this became worse, and in two weeks the disease was full blown. Untreated it continued indefinitely. During a concomitant acute illness the adult parasites seemed to die, but the ova developed soon after fever subsided.

In the treatment sulphur was commonly used, one to one and a half drachms to the ounce of ointment, rubbed in thoroughly after a hot soap and water

bath. This was repeated for three more nights without the preliminary bath; then on the fifth night a second warm bath was taken. Infected clothing was to be boiled for half an hour or baked in an oven at 120° C. Beta-naphthol, balsam of Peru, styrax, Hardy's modification of Helmerich's ointment and Hebra's modification of Wilkinson's ointment had been used with success.

Dr. EDWARD F. CORSON showed three cases of eczema, the most common of all skin diseases. Causative agents were more numerous in children than in adults. Some underlying error in digestion was usually found with constipation. A rheumatic family history was frequently obtained. The child ate too much and got too little exercise, or the character of the food might be at fault. Besides, other skin diseases might have eczema implanted upon them. External causes were cold, dryness, heat, strong soaps, hard or ordinary water, chemicals, scratching, irritating discharges, dirt, rough clothing, dyes, etc. The varieties were numerous, according to the type of the lesions. The common sites for the eruption were face, scalp, buttocks, flexures of elbows and knees, forearms and chest. The ears, neck, and other parts of the body might become affected. Improvement easily followed appropriate treatment, but relapses were common from fresh alimentary upsets or local causes. Without unremitting care recovery, with freedom from subsequent attacks, was doubtful. The original causes generally brought out the eczema again. Great care in management was most essential. The digestive functions and action of the bowels must be regulated; diet must be watched. Plenty of water should be given and salicylates in those with a rheumatic ancestry. A half drachm twice daily of castor oil and aromatic syrup of rhubarb for one or two weeks frequently cured the eczema. Exercise and fresh air in good weather were indicated; also iron and cod-liver oil. Locally soap and water should not be used but vaseline or sweet oil. Scratching must be prevented. Locally boric acid, zinc oxide, bismuth subgallate, phenol, calamine lotion, Lassar's paste, kaolin paste, and many other applications might be employed.

Dr. CLARENCE K. DENGLE, by invitation, showed two cases of impetigo contagiosa. Impetigo was an acute contagious auto- and hetero-inoculable skin inflammation, characterised by the formation of discrete superficial rounded or oval vesicles or blebs, which became pustules, broke down and formed yellow or brownish crusts. It was mainly in poor and unclean children. It might become epidemic from exchange of clothing, common use of towels, etc. It nearly always began in abrasions, fissures or herpes, and often complicated vaccinations, and parasitic diseases accompanied by scratching. About 75 per cent. occurred in young children. The first lesion might be a vesicle or pustule, which contained pus and blood-corpuscles, epithelial cells, and different micro-organisms. Crusts soon formed, dropped off, and the lesions healed without scar-formation. Its favourite sites were the face, scalp, and about the finger-nails. The disease might last two weeks or longer. There was very slight or no itching. Care must be taken to distinguish impetigo from pustular eczema, sycosis, ulcerating syphilides, chicken-pox, and ecthyma. The condition was readily cured by washing off the pus and dirt with soap and water after removing crusts with sweet oil, then cleansing with bichloride of mercury or carbolic acid in weak solution, and application of ammoniated mercury ointment from ten to thirty grains to the ounce.

Abstracts from Current Literature.

Medicine.

A case of enlarged thymus (*Arch. Brasil. de Med.*, 1911, I, p. 572).—**M. Leitão** records a case in a male child, aged 10 months, who had suffered since birth from continuous dyspnoea, with occasional attacks of suffocation. On crying or in the recumbent position the neck veins were markedly swollen, being less so when the child was in repose or erect. The stridor was chiefly inspiratory. A smooth, rounded tumour could be felt rising above the manubrium on inspiration, but was hardly perceptible on expiration. On percussion it yielded a triangular area of dulness with the base uppermost, and merging below with the cardiac dulness. Confirmatory evidence of an enlarged thymus was given by the X rays. Blood-pressure was a little above the normal for the child's age: maximum 85 mm., minimum 58 mm. Blood examination: Mononuclears 9·56 per cent., eosinophiles 9·5 per cent., mast-cells 1·9 per cent. Local application of X rays was made twice weekly, each sitting lasting from 45 seconds to a minute, and in two months the supra-sternal tumour could no longer be felt, the neck veins had completely disappeared, and the thymus dulness and X-ray shadow were normal. The mononuclears had now fallen to 6·2 per cent., the eosinophiles to 3·6 per cent., and the mast-cells to 0·4 per cent. Leitão concludes that X rays have a most satisfactory action in cases of enlarged thymus, and except in cases of imminent death from suffocation should always be preferred to surgical treatment. J. D. ROLLESTON.

Sarcoma of thymus (*Lancet*, 1911, II, p. 1253).—**W. Sheen** and **C. A. Griffiths** record cases in boys, aged 8 and 18 years respectively. In both there was an acute onset with attacks of dyspnoea, dilatation of veins of neck and thorax, swelling of lower part of neck, and dulness over manubrium. In the younger boy relief was obtained by opening the superior mediastinum, and removing fragments of the growth. Death occurred twenty-five days after the operation with signs of secondary involvement of the lungs, liver, spleen, and glands. The older patient, in whom the growth was localised, died shortly after the operation. Microscopically in each case the growths were round-celled sarcomata. J. D. ROLLESTON.

Tumour of the suprarenal capsule (*Austral. Med. Journ.*, 1911, I, p. 50).—**A. S. Trinca** describes the case of a boy, aged 3 years, in whom a tumour of the suprarenal capsule was removed, with recovery. There was at the time no sign of metastases. Although the prognosis was unfavourable, a microscopical examination of the growth revealed areas of tissue growth resembling an endothelioma. F. R. B. ATKINSON.

Pulsating spleen (*Med. Record*, 1911, I, p. 651).—**Manges** showed at the New York Academy of Medicine a girl, aged 6 years, who had for a long time suffered from double mitral disease and a pulsating liver and enlarged spleen. The latter lately had been noticed to pulsate. This pulsation was independent, and not transmitted from the heart, liver, or aorta. The author only found seven cases in the literature, in all of which aortic regurgitation was present. F. R. B. ATKINSON.

Cretinism ('*Practitioner*,' 1911, LXXXVII, p. 364).—**B. C. A. Leeper** divides cretins into three classes: (1) The subjects are entirely destitute of reproduction and usually cannot speak (cretins). (2) Reproductive faculties and some rudiments of speech exist, but the intelligence only goes as far as the bodily wants (semi-cretins). (3) There is a higher amount of intellect than in class 2; there is some aptitude for learning a trade and doing light work (cretinoids). Leeper finds out of thirty-three deaths in the Earlswood Asylum of cretins, eighteen were due to tuberculosis, figures which seem to show that in an institution tuberculosis is much more common in this disease than it is generally supposed to be. Liq. thyroidei $\text{m}-\text{ij}$ or gr $\frac{4}{5}$ of the powder every night at the onset, gradually increased by one minim every week or ten days till tolerance is established, is recommended for treatment. If the pulse becomes rapid and pains in the limbs occur, the child should be put to bed and the dose reduced.

F. R. B. ATKINSON.

Obesity in children ('*Rev. d'hyg. et de méd. inf.*,' 1911, x, p. 241).—**Léopold Lévi** has recently observed about a dozen cases of obesity in boys, aged from nine to fifteen years, associated with genital atrophy and feminism. Symptoms of thyroid insufficiency were also present. The patients were either small and below the average height for their age, or tall with overgrown extremities. In the latter class there was possibly some pituitary over-activity. Thyro-testicular insufficiency is not sufficient to produce obesity, for some cases of infantilism due to this cause are actually lean, but over-feeding and sedentary habits are important contributory factors. The writer records two cases in which improvement followed administration of thyroid extract and reduction of diet.

J. D. ROLLESTON.

Inflammatory tuberculosis and blood-vascular glands ('*Ann. de Méd. et Chir. Inf.*,' 1911, xv, p. 465).—**A. Poncet** and **A. Lériché** consider the effect on the organism of tuberculosis of the various blood-glands, passing in review the thyroid, hypophysis, pancreas, suprarenals, ovary and testicle. The paper is interesting, but does not call for a longer review, as the authors do not add anything to what is already known.

F. R. B. ATKINSON.

On the intra-spinal pressure in various diseases in childhood ('*Riv. di Clin. Pediat.*,' 1911, ix, p. 161).—**C. Francioni** describes his manometer to measure the pressure which was taken in seventy-four cases. The estimation of the pressure of the cerebro-spinal fluid in various diseases is a distinct diagnostic help, and in some cases furnishes a material indication for the abstraction of the fluid as a therapeutical measure. The pressure in the normal infant, which amounts to 10 to 12 mm. of mercury in the lateral position, is as a rule increased in tuberculous meningitis. The same holds good for hydrocephalus; in this disease, in which the amount of pressure ought to serve as a guide to treatment, a progressive diminution in the amount of pressure indicates that there is a tendency to recovery or improvement. Pressure is increased, but to an extent on an average much more limited and irregular in meningococcic and purulent meningitis. Very high degrees of pressure are reached in all those diseases in which there is some modification of intra-cranial circulation. In the acute stage of poliomyelitis there is, as a rule, an increase of pressure, and this fact, added to others furnished by qualitative changes in the fluid, leads one to suppose

that at this stage there is an inflammatory reaction on the part of the meninges or a circulatory disturbance. In rickets there is frequently an increase of tension in the cerebro-spinal fluid, which may be explained by the toxic stasis suggested by Mya.

VINCENT DICKINSON.

Meningismus from acute cervical adenitis and peritonsillar infection (*Journ. Amer. Med. Assoc.*, 1911, I, p. 1443).—**Coues** reports the case of a boy, aged 4 years, whose mother suffered from pulmonary tuberculosis when pregnant with the patient. The cervical glands became enlarged, and a few days later there was stiffness in the right side of the neck and a raised temperature. The tonsils were chronically enlarged but showed no membrane or exudate. The boy became apathetic and the glands were large and tender. Eleven days after the onset of the symptoms the breathing was stertorous and the pulse weak and irregular. The nose was obstructed, and though the throat showed nothing, antitoxin was administered. The head and neck were absolutely rigid, and Kernig's sign was present. The cervical glands were large and there was a bulging over the left tonsil. On the next day the left tonsil had subsided, but the right was affected in a similar manner. This quickly subsided and the patient improved. The rigidity of the neck passed off and the glands became smaller. The boy eventually recovered. The possibility that tuberculous meningitis was present was at one time entertained owing to the history of the boy's mother.

T. R. WHIPHAM.

New reflex signs in meningitis (*Journ. Amer. Med. Assoc.*, 1911, I, p. 114).—**Northrup** advocates Brudzinski's sign in meningitis as being "probably one of the best signs in the diagnosis of this disease, although it does not differentiate between the various forms." The sign comprises two reflex phenomena—the identical reflex and the contra-lateral reflex. The former is elicited by forcibly flexing the head on the chest when the legs are abducted and flexed and the arms are rotated externally and flexed at the elbows. The contra-lateral reflex is produced by passive flexion of one leg, which causes the opposite limb to draw up into the same position. Of the two the neck sign is the more constant.

T. R. WHIPHAM.

A case of epidemic cerebro-spinal meningitis in an infant, aged 9 months (*La Pediat.*, 1911, XIX, p. 119).—**L. Consiglio** reports this case, which ended fatally, and discusses the question of diagnosis and treatment. He considers that these are cases of purulent cerebro-spinal meningitis in which it is not possible to make a diagnosis without lumbar puncture, which affords valuable information by way of enabling the epidemic form to be differentiated from others. A safe criterium is also afforded by the serum reaction, which by its simplicity is a good substitute for bacteriological investigation, which is difficult and not always possible. The discovery of Weichselbaum's meningococci is of no prognostic value. In the same subject affected with this disease we may find meningococci which differ in morphological and cultural characters; hence the various types admitted by many authors must be considered simple modifications of one and the same micro-organism, *i.e.* the meningococcus. Lumbar puncture is the only efficient method of cure in epidemic cerebro-spinal meningitis, and treatment by serum is hopeful provided it is adopted early. The specific agent is found in the respiratory passages of individuals in immediate contact with the patient without their presenting any morbid phenomena, and this explains the transmission of infection.

VINCENT DICKINSON.

Meningococcus septicæmia ('*Journ. Amer. Med. Assoc.*,' 1911, I, p. 1446).—**Skilton** saw a boy, aged 12 years, who first complained of pain over the mastoid region on both sides with swelling and tenderness. Temperature, 104° F.; pulse, 100. There was no headache or vomiting, but slight ptosis of the left eyelid and some rigidity in the neck and extremities. On lumbar puncture 25 c.c. of turbid fluid escaped under pressure; meningococci were found in it, both free and within polymorphonuclear leucocytes. The leucocyte count was 7500, 85 per cent. of which were polymorphonuclears. Many of these contained diplococci, which were found in the mononuclear cells as well. Extra-cellular organisms were not seen. The result of the case is not stated. T. R. WHIPHAM.

Meningococcic meningitis treated with Flexner's serum ('*New York State Journ. of Med.*,' 1911, XI, p. 493).—**Springarn** relates the case of an infant, aged 3 months, in which, after removing 20 c.c. of cerebro-spinal fluid (which had shown a large number of meningococci and 100 per cent. of polynuclear leucocytes), he injected into the subarachnoid space a like amount of anti-meningitis serum. After the injection the infant appeared to be in a state of collapse, but soon rallied and was better. On the following day 30 c.c. of cerebro-spinal fluid were withdrawn and the same amount of anti-meningitis serum was injected. The injections were repeated on five more days in succession, 20 c.c. of serum being introduced each day: on the three last days no cerebro-spinal fluid was obtain. On lumbar puncture. During this time the condition of the child gradually improved, the whining ceased, the eyes lost their peculiar stare, the pupils reacted normally to light, the rigidity of the neck and limbs disappeared, the reflexes became normal, and the temperature showed no elevation at the end of eight days following the first injection. Altogether 150 c.c. of serum were used, being introduced into the subarachnoid space, not by means of a syringe, but by gravity, the serum flowing in from an upright glass tube attached at its lower end to the rubber tubing connected with the lumbar needle; the serum was slightly warmed before being used. The infant was watched for three weeks following the disappearance of the meningitic symptoms and no tendency to relapse was noted. Of twenty-two cases collected by Flexner and Jobling of infants under one year treated with the anti-meningitis serum, one half were fatal, and only two or three cases occurred in infants less than four months of age. J. E. BULLOCK.

Paratyphoid meningitis ('*Jahrb. f. Kinderheilk.*,' 1911, LXXIV, p. 462).—**Gorter** reports a case in a child, aged 8 months. A pure culture of the paratyphoid bacillus was obtained from the cerebro-spinal fluid. Agglutination with paratyphoid B. serum 1 in 3000 positive; after lumbar puncture the meningeal symptoms disappeared, and the child presented the typical symptoms of tetany. Death from inanition. No necropsy (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, VII, p. 513).

J. D. ROLLESTON.

Recovery from tuberculous meningitis ('*Jahrb. f. Kinderheilk.*,' 1911, LXXIV, p. 155).—**W. G. Archangelsky**.—A girl, aged 8 years, whose brother had died three days previously of tuberculous meningitis, was admitted to hospital with symptoms of tuberculous meningitis on the eighth day of disease. Lumbar puncture, performed on admission, gave issue to a clear fluid, containing numerous mononuclears and tubercle bacilli. The fluid

from the second puncture on the twenty-third day contained fewer mononuclears and no tubercle bacilli. On the twenty-ninth day the fluid was almost normal. Right facial palsy developed on the twenty-third day, and persisted till the hundredth. Complete recovery took place, and when seen two years later the child had shown no cerebral symptoms since the illness, and her intellect was good. About fifty cases of recovery from tuberculous meningitis are on record, but in many the diagnosis was doubtful, and lacked bacteriological and biological confirmation. In only four cases besides the present one were tubercle bacilli found in the cerebro-spinal fluid; in a fifth injection of the fluid into a guinea-pig produced miliary tuberculosis, though no bacilli had been found in the fluid.

J. D. ROLLESTON.

Surgery.

Cystic ovary in the fœtus (*Journ. de Méd. de Bordeaux*, 1910, **XL**, p. 805).—**Lafond** describes what he considers a unique case in a fœtus born at term. Both ovaries were transformed into polycystic masses as large as big almonds. The individual cysts varied up to the size of a large pea; they were lined with three or four layers of stratified epithelium, and enclosed granular or mucous material. The tissue between the cysts was a fibro-cellular tissue with Pflüger's tubes in process of formation. It was evidently congenital cystic degeneration.

J. PORTER PARKINSON.

Hypertrophy of the breast at puberty (*Arch. de méd. des enf.*, 1911, **XIV**, p. 172).—**H. Caubet**, from his observations on one case of his own and from the published records of other authentic cases, believes that heredity has a marked influence on the occurrence of the disease, and that amenorrhœa is not a cause, but a result. The case that he records is of especial interest as the child's mother suffered from the same ailment, and was cured by amputation of both breasts.

RUPERT FARRANT.

Rupture of the spleen (*Indian Med. Gaz.*, 1911, **XLVI**, p. 136).—**W. J. Niblock** describes a case in a Hindu girl, aged 6 years, who was run over by a bullock cart. The patient showed all the signs of internal hæmorrhage, and on operation the spleen was found torn into several pieces. The whole organ was removed and the child made a complete recovery.

F. R. B. ATKINSON.

The ligaments in health and disease (*Rev. d'hyg. et de méd. inf.*, 1910, **IX**, p. 472).—**Ducroquet**.—Ligaments when relaxed contract, when stretched they lengthen. It is owing to these two main facts that many deformities are produced. The ligaments by themselves are unable to maintain a joint in its normal position. The true ligaments are the tendons and the muscles. When a muscle or group of muscles are paralysed or in a state of hypotonus, the whole strain is cast on the ligaments, and thus orthopædic conditions are produced. The main idea of treatment of many of these conditions, such as club foot, flat foot, genu valgum, etc., depends on utilising these functions of ligaments, namely, relaxing the lengthened and stretching the contracted. A warning is given that whilst treating one deformity another may be produced from ignoring these functions, notably in Little's disease and in hip disease. During the application of a plaster the leg is apt to be supported only by the heel, causing the flexors of the knee to be tired out and stretching of the posterior ligament; if a series of plasters be applied in this way, a genu recurvatum is bound to occur.

RUPERT FARRANT.

The treatment of congenital talipes equino-varus in the new-born (*Journ. de Méd. de Paris*, 1911, xxxi, p. 535).—**R. Sainton** recommends the early application of a poroplastic splint, the foot being placed in a position of complete extension and the varus unrolled as far as possible. This splint should be taken off daily and the foot massaged. A fresh splint should be fitted at the end of six weeks with the foot still in a position of complete extension and the varus now over-corrected; this must be worn for eight weeks. Then, and then only, the equinus may be corrected by tenotomising the tendo Achillis and a gutta-percha boot made. A long course of massage is still required to effect a permanent cure.

RUPERT FARRANT.

Simple and complete reduction of deformity in fixed lateral curvature of the spine (*New York Med. Journ.*, 1911, i, p. 1217).—**E. G. Abbott** regards all cases of scoliosis, except those due to definite disease of the bone, as being capable of complete cure in a comparatively short time by the application of plaster jackets, even though there be alteration in the shape of the vertebræ and contraction of muscles and ligaments. He bases his ideas on the deformity produced on a normal spine by fixing it in a position of scoliosis for a month in a plaster jacket, and then curing the curve obtained by fixing it for another month in an over-corrected position. The article is illustrated with photographs, diagrams, and X-ray pictures of cases he has treated in this way.

RUPERT FARRANT.

Diagnosis of congenital dislocation of the hip in the infant (*Gaz. Heb. des Sci. Méd. de Bordeaux*, 1910, xxxi, p. 531).—**Villeon**.—The diagnosis of this condition is of great importance, as the earlier it is treated the better the result. The sign of "exaggerated internal rotation" is the most reliable sign. The principle is that excessive internal rotation of the femur can only take place when there is congenital dislocation of the hip-joint. Excessive laxity of the articulation and torsion of the femur on its axis have to be eliminated. The best method is to lay the infant on one side, flex the opposite thigh, bend the knee and rotate the femur by bringing the foot upwards; it will be found that on the sound side the leg can only be brought to an angle of about 45° with the table, while on the side of the dislocation the leg can be brought almost to the vertical position. The author states that this sign is pathognomonic.

J. PORTER PARKINSON.

Surgical treatment of Little's disease (*Norsk Mag. f. Læg.*, 1911, lxxii, p. 979).—**A. Cappelen**.—A child, aged 8 years, who had never been able to walk, raise itself or stand, had the second, third, and fifth lumbar, and first sacral sensory roots divided. Numerous contractures were also rectified by tenotomy. After eight months' treatment the patient could get up, stand, and walk with support.

J. D. ROLLESTON.

Dry caries of shoulder-joint in a child, aged 9 years, successfully treated (*Journ. de Méd. de Bordeaux*, 1911, xli, p. 613).—**L. Rocher** relates the case of a child who, four years after an injury to the shoulder, presented herself for treatment for dry caries of the joint. The shoulder-joint was opened and the synovial membrane with its prolongations removed, and the affected bone curetted. The cavity was dried with tampons soaked

in oxygenised water, and then filled with the mixture suggested by Mosetig-Moorhof. It was then closed, and the part immobilised by the dressings. It was healed in three weeks and the plaster removed at the end of two months, when the disease seemed permanently cured.

J. PORTER PARKINSON.

Tuberculous hip (*'Practitioner,'* 1910, I, p. 142).—**Stonham**, in the early stages, rectifies any deformity that may be present by weight extension such as the child can bear without inconvenience or pain. When, after perhaps a week or ten days, the limbs are parallel, he puts on a Thomas splint, using a double splint for quite young children who cannot get about on the sound limb with crutches. He generally makes children who have had undoubted evidence of hip disease wear the splint for a year, *i. e.* he continues it so long as the child is improving, but directly there is indication of suppuration taking place in the joint, and there is increasing pain on slight movement, a splint is of no use, and surgical procedure is necessary.

J. E. BULLOCK.

Tuberculous disease of knee (*'Practitioner,'* 1910, I, p. 332).—**Watson** expresses the following conclusions: Mixed infection spells doom to the joint. There are two knees worth having—the movable, when it is stable, and the fixed, when it is straight. Erosions seldom produce either. Fibrous ankylosis spells flexion and failure. The tubercle bacillus sometimes wrecks a child's joint, but erosion and excision are worse offenders. In the young adult excision is very good.

J. E. BULLOCK.

Results of treatment of white swelling of the knee by injections of chloride of zinc (*'Gaz. Heb. des Sci. Méd. de Bordeaux,'* 1911, xxxii, p. 75).—**A. Charrier** relates two cases treated successfully by this method. They remained well for seven and nine years respectively, when swelling and pain returned. They were again treated by injection of a drop of one tenth solution of chloride of zinc; this was injected deeply into the periosteum at the edge of the swelling. Eight drops were injected at intervals of one centimetre from each other. The subsequent pain was relieved by morphia. A fortnight later this was repeated, and so on for five months, when the disease was completely cured. The joint was of course completely ankylosed.

J. PORTER PARKINSON.

On para-articular osteotomy in ankylosis of the tuberculous knee-joint (*'Prag. med. Woch.,'* 1911, xxxvi, p. 237).—**G. Eckstein** claims that this operation leaves the joint in its fixed bent position in complete rest, whilst it avoids the seat of the disease. Simple replacement of the joint in the straight position is fraught with danger; arthrectomy and resection invariably give bad results sooner or later. Before the operation of osteotomy is undertaken some two years must have elapsed since symptoms of disease were present—pain, abscesses, fistula, fever, must all have disappeared. Through a Röntgen rays examination the condition of the joint is ascertained. The object of the operation is to lengthen the limbs so that the patient can stand straight on the sole, with or without a shoe, but without support, avoiding the danger of any local recurrence of the disease or a recontraction. The operation being carried out in healthy bone and tissues is without danger; healing lasts only a few weeks. The ligaments of the ham are divided subcutaneously, care being taken of the peroneal nerve. Osteotomy

is then performed as close as possible to the condyles; in growing persons the epiphyses must be avoided. When the contraction is 130° this osteotomy is sufficient. If it is 90° a second osteotomy of the tibia must be carried out, just at the condyle. This is better done some weeks later. Adduction and rotation of the leg can be corrected at the same time, whilst the thigh or leg can be lengthened at the same time if necessary, as Schanz and Werndorff have demonstrated. Illustrations of three patients before and subsequent to operation are given.

M. D. EDER.

Tubercular peritonitis with intestinal fistulæ (*Liverpool Med.-Chir. Journ.*, 1911, xxxi, p. 389).—G. P. Newbolt reports the case of a child, now aged 12 years, who first came under his care when four years old with two large faecal fistulæ, as the result of tubercular peritonitis, through which the whole of the intestinal contents passed. Plastic operations were tried and failed. Short circuiting was done with a satisfactory result; prolapse of bowel occurred and portions were excised; muco-pus collected in shut-off coils which required to be opened, drained, and later excised. In spite of the fact that adhesions from this disease or from subsequent operations have practically obliterated his peritoneal cavity, his fistulæ are closed, he remains in good health and attends school, his bowels acting in the ordinary way. In all some twenty operations have been performed, including the removal of a stone from his bladder.

DUNCAN C. L. FITZWILLIAMS.

Treatment.

Treatment of rickets by drugs and other remedies (*Paris Méd.*, 1911, i, p. 383).—A. B. Marfan, in a preceding article, has considered the treatment of rickets by hygiene, hydrotherapy, and diet, and now goes on to discuss in detail the drugs and other measures employed for its cure. The chief drugs are cod-liver oil and preparations of phosphorus and calcium. Yellow oil is to be preferred in doses of two teaspoonfuls *per diem*, gradually increased to tablespoonfuls. Under the age of two it is generally not tolerated. The preparations of phosphate of lime are various, and seem to act as tonics to nutrition and stimulants of the nervous system. The preparations of phosphate of calcium have the disadvantage that they are insoluble and have been recommended to be taken as a powder in the food, Simon considering that they are rendered soluble by the gastric juice transforming them into the chloro-hydrophosphate. The soluble phosphates in common use are the syrup of lacto-phosphate or the chloro-hydrophosphate of lime of the codex, in doses of from one to three teaspoonfuls a day. The author finds the hypophosphite of lime (0.10–0.20 gr. *per diem*) more efficacious. Others have found a solution of tribasic-phosphate, alkaline citrates, and sugar of milk beneficial. The author particularly recommends glycerophosphate of lime in doses of 0.05 to 0.20 gr. according to age; larger doses seemed to produce nervous excitement. Kassowitz is a great believer in oil of phosphorus given as follows: Phosphorus, 1 cntgr.; cod-liver oil, 100 grm.—one to three teaspoonfuls a day. Others find oil of bitter almonds a better vehicle, and the author recommends this vehicle in preference to ol. morrhue. Some deny any therapeutic value to phosphorus in the treatment of rickets and proscribe it altogether, but Marfan finds that it acts beneficially on the general state of health and on the nervous system, but its action on bone seems to be doubtful save in craniotabes of young

children, when it appears to cause a quicker consolidation. Others recommend organic compounds of phosphorus from the tissues of animals or vegetables, as lecithin, nucleinate of soda, phytine, but Marfan has not had sufficient experience of them to form an opinion of their value or otherwise. Having been impressed by the value of the glycerophosphate of lime he endeavoured to find out whether its efficacy was due to the phosphorus or the lime, and prescribed in some cases chloride of calcium, lactate of calcium, and formiate of calcium. The two former he discarded, and after many trials found the following combination most beneficial: Syrup of lemon 150 grm., glycerophosphate of lime (liquid) and formiate of lime $\bar{a}\bar{a}$ 2 grm. One to four teaspoonfuls *per diem* according to age. Hydrochloride of ammonia and chloride of sodium have also been found useful. The former should be given in doses of 0.10 to 0.20 gr. *per diem* with bicarbonate of soda divided into four doses and discontinued for a few days after eight days. A small pinch of the latter should be added to each bottle of milk, and if the child is at the breast added to the mother's diet. Organotherapy has also been tried in rickets with varying results. The following have been recommended: Bone-marrow, extract of periosteum, and fundamental substance of the bone (results not detailed); thyroid (no obvious result save when rickets has been associated with hypothyroidism, in which case it has acted beneficially); thymus (valueless); adrenalin. The author recommends an extended trial to the latter in solution of $\frac{1}{1000}$ (one to six drops *per diem*) by the mouth, but not hypodermically: parathyroid gland (no result). Galvanisation of the spine by alternate currents, and hydro-electric baths and electric light (35°-40° F.) for fifteen minutes, followed by a cold douche of ten seconds, have been found useful. The treatment of the deformities depends on the stage of the rickets. In the first stage, before consolidation of the bone has taken place, padded splints, accurately applied, should be used. In cases of genu valgum with slight valgus a laced boot should be worn on walking, the sole raised on the inner side. General and respiratory gymnastics should be employed to remove the thoracic deformity, and lateral suspension on the mother's knee, and appropriate corsets the scoliosis. After the fourth year the deformities, save those of the chest, are usually final. The same remedies as just mentioned should be continued to remove the thoracic deformity, but malformation of the limbs will almost certainly require surgical intervention. In late rickets treatment by gymnastics, orthopædics, and surgical intervention play a greater part than in rickets of early infancy.

F. R. B. ATKINSON.

The treatment of "summer diarrhœa" (*Guy's Hosp. Gaz.*, 1911, xxv, p. 356).—H. C. Mann, in some notes on the treatment of "summer diarrhœa," states that he is opposed to the "starvation treatment" of this malady. He recommends feeding throughout the illness on undiluted citrated milk. This view he supports by a series of figures obtained by analysing the amount of fat excreted in the feces of three severe cases in which the intake of fat was also reckoned. He found that while administering in the diet from 19 to 23 grm. of fat in twenty-four hours, only from 4 to 7 grm. of fat were voided during the same period, leading to the conclusion that a good deal of intestinal digestion is possible during this disease.

REGINALD MILLER.

"Fixation abscess" in the treatment of broncho-pneumonia in infants (*Lyon m'ed.*, 1910, cxv, p. 925).—Montagnon takes exception to

the statement of Campana and Codet-Boisse that turpentine injections for this purpose are dangerous in children under five years of age, and publishes the results of twenty-six cases, the ages of the subjects varying from four months to five years. Six cases are given in detail with temperature charts. The first question is that of dosage. The use of 1 c.c. even in children of four to five years may be attended with troublesome skin complications. The personal experience of the author is that by using $\frac{1}{2}$ c.c. turpentine up to the age of twelve months, and $\frac{1}{4}$ c.c. from one to five years, the dose may be repeated if requisite but never requires increasing. He always practises the injection in the lateral part of the anterior abdominal region about the level of the hypochondrium, on a horizontal line three fingers' breadth from the umbilicus. This region is preferred, as the infant is not prevented lying on its back, the resulting abscess not being painful. The inflammatory reaction is apparent next day and very evident at the end of forty-eight hours. About the sixth or seventh day the pus is evacuated; cicatrization is complete on the fifteenth. Turpentine injection has not only a therapeutic action but also a diagnostic and prognostic importance. If suppuration is not caused it means that the organism can no longer react, that the phagocytic power is exhausted and the prognosis grave; it is the same when the temperature does not come down during the following two or three days. On three occasions out of four when this happened tuberculosis was verified on autopsy. These facts are not numerous enough for an absolute conclusion to be drawn, but the coincidence is interesting, and may throw light on a number of cases where the clinician hesitates to pronounce on the nature of the affection. To obtain the best results the use of the injection should be avoided at the onset of the attack. If in spite of mustard baths and oxygen inhalations the temperature remains high, if the dyspnoea does not yield about the third or fourth day, then the best results may be obtained from turpentine injections. At the beginning of an infection the defence of the organism is at its height, and to seek to increase it would be, to say the least, useless; if, on the other hand, the turpentine injection acts as a stimulus to phagocytosis, it is when this is declining that the fixation abscess is able to give it a fresh impulse.

VINCENT DICKINSON.

Treatment of tuberculous peritonitis (*'Monde Médical,'* 1910, xx, p. 289).—**Robin** relates two cases illustrating the treatment of this condition. (1) A girl, aged 15 years, showed a considerable amount of ascites, not encysted; there was no evidence of pulmonary lesion, and the other organs appear to be healthy. (2) A man, aged 40 years, a confirmed alcoholic; his abdomen gave signs of encysted ascites, and there was distinct evidence of tuberculosis in both lungs with pleurisy. The girl was treated with fresh air, rest, and suitable food; she improved, but the ascites continued, and required to be reduced by puncture followed by washing out with boracic acid water. After a second puncture she improved so much that she was discharged, two months after admission to the hospital, apparently in the best of health. In the case of the man, laparotomy or puncture was not entertained on account of the pleuro-pulmonary lesions and the encysted collection of fluid, together with fibro-caseous lesions in the abdomen; he was discharged after improvement under general medical and hygienic treatment, but there was every reason to expect a recrudescence of his disease.

J. E. BULLOCK.

Treatment of tuberculous glands (*'Practitioner,'* 1910, i, p. 741).—**Bennett** points out that in the primary adenitis the focus of infection must

be sought and treated; if no focus can be found, removal of the glands is strongly indicated. If the primary source of infection has been cured or become non-existent, and yet the affected gland does not diminish, it is very suggestive of invasion by tubercle. He recommends tuberculin treatment only in the early stages of invasion, and calls attention to the value of X-ray examination (tuberculous deposit in glands, especially if caseation is in progress, is resistant to X rays, and is not likely to be amenable to tuberculin). Under climate he advises sea air rather than high altitudes: Children born at and living at the seaside who develop tuberculosis there benefit by a change inland, while those who develop tuberculosis inland benefit by a change to the sea, hygienic conditions being equal. He has noticed that a return to the child's native place has brought about remarkable benefit when other treatment has failed. The less a tuberculous gland is worried by local applications the better. In the event of suppuration he recommends operation: in the case of deep glands before the broken-down contents escape from the capsule into the deep fascia; in the case of superficial glands before the skin becomes involved in the inflammatory process. Should the capsule have given way, scraping with a sharp spud will be necessary to remove all diseased tissue. In the case of subfascial glands there is often a small opening in the deep fascia, which leads into the centre of a diseased gland; this must be cleared out or permanent healing cannot result. A persistent sinus after operation is due to the disease having been inadequately removed, or to infection of the operation area by some micro-organism other than the tubercle bacillus; it must be treated by an appropriate vaccine.

J. E. BULLOCK.

Purpura hæmorrhagica successfully treated with human blood-serum ('*Med. Record*,' 1910, II, p. 930).—C. G. Kerley reports a case of severe purpura in a non-hæmophilic boy, aged 5 years. Various hæmorrhages occurred over a period of three weeks, the most serious of which were repeated and prolonged attacks of epistaxis from which the child was rendered *in extremis*. At this point, within one day, 290 c.c. of human blood-serum were injected hypodermically and large quantities were given during the next week. The hæmorrhage ceased within fifteen hours of the first injection, and it appeared to the author that this treatment was directly responsible for saving the child's life.

REGINALD MILLER.

Treatment of chorea by injections of sulphate of magnesia into the spinal meninges ('*Gaz. Hebdomadaire des Sci. Méd. de Bordeaux*,' 1911, xxxii, p. 409).—Rocaz records five cases of chorea treated in this way. It is known that salts of magnesium inhibit conduction of impulses down the nerves, and it has been used as a treatment of severe neuralgias. The solution used is of a strength of 25 per cent. in sterilised water. Twelve c.c. of cerebro-spinal fluid being withdrawn, 2 c.c. of the solution is injected. After the injection the temperature falls below normal, the pulse becomes slow, and there is pallor of the face and prostration, occasionally vomiting and incontinence of urine and fæces. An hour later the legs are paralysed and the choreic movements disappear. After injection of caffeine the child improves from the prostration, and the pulse rises and the temperature becomes slightly elevated. The next day the child is apparently well, with no choreic movements. Sometimes a second injection is necessary and may be done five or six days after the first.

Four cases so treated were absolutely and rapidly cured; the inconveniences of the treatment are that there is frequent headache and pains in the limbs; these, however, may be lessened by an injection of morphine. The other troubles, such as vomiting, deep and sometimes rapid respiration, paralyses, etc., disappear after a few hours, and are more alarming than dangerous.

J. PORTER PARKINSON.

Correspondence.

TRANSMISSION OF DISEASE BY MEANS OF BOOKS.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

DEAR SIR,—I am engaged in collecting data, part of which is to be used in a paper to be read before the next International Congress of Hygiene, and in order to obtain data, respectfully request the readers of this note to send me an account of any cases the source of which has been traced to books or papers, or where the evidence seemed to make books or papers the offender. I would also further request information where illness or even death has been caused by the poisons used in book-making.

All the information possible is wanted to present as complete a paper as possible. As in the case of insects, which we now know to be "carriers of disease," it is first necessary to collect the scattered evidence in order to show that there is real danger in books; and this will compel better care to be taken of libraries and books and improve the health of mankind.

Thanking you in advance,

I am, very truly yours,

1709, Wallace Street,
Philadelphia, Pa.;
October 25, 1911.

WM. R. REINICK,
Chief of the Free Library, Philadelphia.

DISEASE IN HOMOGENEOUS TWINS.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

DEAR SIR,—I was much interested in Dr. Cockayne's paper, in the last number of the JOURNAL, on "Disease in Homogeneous Twins." I remember some years ago seeing in consultation a little girl in a very severe attack of cyclical vomiting. I was told that her twin sister had died in a similar attack not long before, and that both children used to be subject to attacks simultaneously, even although they did not happen to be living at the same place at the time. I am sorry that I cannot furnish any further details of the case, but owing to the rarity of these conditions in homogeneous twins I thought it might be worth mentioning, as perhaps your readers may be able to provide other examples.

Yours sincerely,

22, Queen Anne Street,
Cavendish Square, W.
November 18, 1911.

ROBT. HUTCHISON.

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